

Title (en)  
Servo valve

Title (de)  
Servoventil

Title (fr)  
Servosoupape

Publication  
**EP 2306030 A3 20140611 (DE)**

Application  
**EP 10009135 A 20100902**

Priority  
• DE 102009047901 A 20090930  
• DE 102009049493 A 20091012

Abstract (en)  
[origin: EP2306030A2] The valve has a stage operating as a pilot stage (1), and another stage operating as a power stage (2). The former stage includes a movable nozzle tube (10), which is guided by a torsion element i.e. torsion bar spring. An oil supply of the movable nozzle tube is integrated in the torsion element. The oil supply is arranged in a neutral fiber of the torsion element. The torsion element has an oil supply bore on one side and an additional bore on an opposite side. The torsion element is made of titanium, copper-beryllium alloy or steel.

IPC 8 full level  
**F15B 13/043** (2006.01)

CPC (source: EP US)  
**F15B 13/0436** (2013.01 - EP US); **Y10T 137/7761** (2015.04 - EP US); **Y10T 137/8659** (2015.04 - EP US); **Y10T 137/86606** (2015.04 - EP US)

Citation (search report)  
• [XII] US 3331383 A 19670718 - BUCHANAN J D  
• [XII] US 3137309 A 19640616 - WALTER BLASE WILLIAM, et al

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 SE SI SK SM TR

Designated extension state (EPC)  
BA ME RS

DOCDB simple family (publication)  
**EP 2306030 A2 20110406; EP 2306030 A3 20140611; EP 2306030 B1 20190227**; BR PI1003685 A2 20130129; BR PI1003685 B1 20200107; CN 102032227 A 20110427; CN 102032227 B 20150819; DE 102009049493 A1 20110407; ES 2727730 T3 20191018; RU 2010140038 A 20120410; RU 2535595 C2 20141220; US 2011079297 A1 20110407; US 8783291 B2 20140722

DOCDB simple family (application)  
**EP 10009135 A 20100902**; BR PI1003685 A 20100930; CN 201010501793 A 20100929; DE 102009049493 A 20091012; ES 10009135 T 20100902; RU 2010140038 A 20100929; US 89445710 A 20100930