

Title (en)  
Pump assembly

Title (de)  
Pumpenanordnung

Title (fr)  
Ensemble de pompe

Publication  
**EP 2299114 A1 20110323 (EN)**

Application  
**EP 09169972 A 20090910**

Priority  
EP 09169972 A 20090910

Abstract (en)  
A pump assembly for an internal combustion engine comprising a pump housing (40), at least one pumping arrangement having a pumping plunger (56, 58) for pressurising fluid within a pump chamber; a drive shaft (46) carrying a cam (48) and a cam rider (50) which cooperates with the pumping arrangement to drive plunger movement along a plunger axis; and a plate (74; 174; 274; 374) coupled, on one side (74b), to the cam rider (50) and, on its other side (74a), to the housing (40) by coupling means (84, 86, 80, 82; 84, 180; 280, 286; 380, 480). The coupling means is arranged to constrain movement of the plate (74; 174; 274; 374) relative to the housing (40) in a first linear direction and to constrain movement of the cam rider (50) relative to the plate in a second linear direction, and to prevent angular movement of the cam rider (50) about its axis. Wear of the plunger, or of any intermediate component between the cam rider and the plunger, can be reduced as the cam rider is unable to tilt about its axis.

IPC 8 full level  
**F04B 1/04** (2006.01); **F02M 59/06** (2006.01); **F02M 59/10** (2006.01); **F02M 59/46** (2006.01); **F02M 63/02** (2006.01); **F04B 9/04** (2006.01)

CPC (source: EP)  
**F02M 59/06** (2013.01); **F02M 59/102** (2013.01); **F02M 59/46** (2013.01); **F02M 59/462** (2013.01); **F02M 63/027** (2013.01); **F04B 9/042** (2013.01); **F04B 9/047** (2013.01)

Citation (search report)  
• [AD] US 6446604 B1 20020910 - GUENTERT JOSEF [DE], et al  
• [A] DE 102007002730 A1 20080731 - SIEMENS AG [DE]

Cited by  
DE102013211755A1; US10060420B2

Designated contracting state (EPC)  
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)  
AL BA RS

DOCDB simple family (publication)  
**EP 2299114 A1 20110323**; **EP 2299114 B1 20120502**; AT E556221 T1 20120515; WO 2011029649 A1 20110317

DOCDB simple family (application)  
**EP 09169972 A 20090910**; AT 09169972 T 20090910; EP 2010060442 W 20100719