

Title (en)
HYDRAULICS UNIT FOR AN INTERNAL COMBUSTION ENGINE WITH HYDRAULICALLY VARIABLE GAS EXCHANGE VALVE GEAR

Title (de)
HYDRAULIKEINHEIT FÜR EINE BRENNKRAFTMASCHINE MIT HYDRAULISCH VARIABLEM GASWECHSELVENTILTRIEB

Title (fr)
UNITÉ HYDRAULIQUE POUR UN MOTEUR À COMBUSTION INTERNE À COMMANDE HYDRAULIQUE VARIABLE DES SOUPAPES D'ÉCHANGE DES GAZ

Publication
EP 3523512 A1 20190814 (DE)

Application
EP 17784837 A 20170929

Priority
• DE 102016219297 A 20161005
• DE 2017100833 W 20170929

Abstract (en)
[origin: WO2018065010A1] What is proposed is a hydraulics unit for an internal combustion engine with a hydraulically variable gas exchange valve gear, comprising: – a hydraulics casing (4) with a pressure chamber (5), a pressure relief chamber (6) and a venting duct (11, 11'), wherein the pressure chamber, the pressure relief chamber and the venting duct are hydraulically connected to one another, – a master piston (7) which is guided in the hydraulics casing, is driven on the casing outer side by a cam (3) and, on the casing inner side, bounds the pressure chamber, – a slave piston (8) which is guided in the hydraulics casing, drives the gas exchange valve (2) on the casing outer side and, on the casing inner side, bounds the pressure chamber, – and a hydraulics valve (9) which, in the closed state, interrupts the connection between the pressure relief chamber and the pressure chamber. The venting duct is connected, on the casing inner side, to the pressure relief chamber via a throttle point (12) and opens on the casing outer side. The venting duct has a siphon with a downward first duct section and an upward second duct section, respectively in the direction of gravity and in the venting direction, wherein, when the gas exchange valve is closed, the lowermost section (17) of the siphon is below the boundary (13) of the pressure chamber of the slave piston.

IPC 8 full level
F01L 9/02 (2006.01); **F01L 9/10** (2021.01); **F01L 9/11** (2021.01); **F01L 9/14** (2021.01)

CPC (source: EP US)
F01L 9/10 (2021.01 - EP); **F01L 9/11** (2021.01 - EP US); **F01L 9/14** (2021.01 - EP US)

Citation (search report)
See references of WO 2018065010A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
DE 102016219297 A1 20180405; **DE 102016219297 B4 20211230**; CN 109790766 A 20190521; CN 109790766 B 20210126; EP 3523512 A1 20190814; EP 3523512 B1 20201111; US 11187117 B2 20211130; US 2021293162 A1 20210923; WO 2018065010 A1 20180412

DOCDB simple family (application)
DE 102016219297 A 20161005; CN 201780059007 A 20170929; DE 2017100833 W 20170929; EP 17784837 A 20170929; US 201716327370 A 20170929