Title (en)

CENTRIFUGAL OIL MIST SEPARATION DEVICE INTEGRATED IN AN AXIAL HOLLOW SHAFT OF AN INTERNAL COMBUSTION ENGINE

Title (de)

IN EINE AXIAL HOHLE WELLE EINES VERBRENNUNGSMOTORS INTEGRIERTE ZENTRIFUGAL-ÖLNEBELABSCHEIDEREINRICHTUNG

Title (fr)

DISPOSITIF CENTRIFUGE SEPARATEUR DE BROUILLARD D'HUILE INTEGRE DANS UN ARBRE AXIALEMENT CREUX D'UN MOTEUR A COMBUSTION INTERNE

Publication

EP 1880085 B1 20100811 (DE)

Application

EP 06722839 A 20060506

Priority

- DE 2006000781 W 20060506
- DE 102005022254 A 20050510
- DE 102005042725 A 20050908

Abstract (en)

[origin: WO2006119737A1] The aim of the invention is the achievement of a high separation efficiency for a centrifugal oil mist separator device integrated in a axial hollow camshaft of an internal combustion engine. Said aim is achieved, whereby a device is provided whereby the camshaft (101) has, at a first end, radial oil mist introduction openings (106) for oil mist to be introduced into the axial cavity (102) in the camshaft (101) and, at the second end for removal, a radial oil removal channel (112) for oil separated in the liquid phase and an axial gas removal channel (113) for the oil mist flow remaining after removal of the liquid fraction, a centrifugal oil mist pre-separator is mounted before the oil mist introduction holes (106) as a pre-separator (107) connected to the camshaft (101) and, within the axial cavity (102) of the camshaft (101), a cyclone inducer (108) is provided as final separator.

[origin: WO2006119737A1] The device has a radial oil mist feeding opening (106) for oil mist to be introduced into an axial cavity (102) in a camshaft (101), and a radial oil leakage channel (112) for oil separated as a liquid phase. A centrifugal oil mist pre-separator is pre-mounted as a pre-separator that is connected with the camshaft in the oil mist feeding opening. A twist producer (108) is provided as a final separator within the axial cavity.

IPC 8 full level

F01L 1/047 (2006.01); **F01M 13/04** (2006.01)

CPC (source: EP US)

F01L 1/047 (2013.01 - EP US); **F01M 13/04** (2013.01 - EP US); F01L 2810/02 (2013.01 - EP US); F01M 2013/0422 (2013.01 - EP US)

Cited by

DE102011000458A1; WO2012104391A1; EP1845238A3; EP1845238A2; US9803514B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 2006119737 A1 20061116; DE 112006000356 A5 20071122; DE 502006007644 D1 20100923; EP 1880085 A1 20080123; EP 1880085 B1 20100811; EP 1880085 B2 20131009; JP 2008540906 A 20081120; JP 5124448 B2 20130123; US 2007294986 A1 20071227; US 7717101 B2 20100518

DOCDB simple family (application)

DE 2006000781 W 20060506; DE 112006000356 T 20060506; DE 502006007644 T 20060506; EP 06722839 A 20060506; JP 2008510397 A 20060506; US 66083106 A 20060506