

Title (en)

ROTARY PUMP WITH SAFETY VALVE AND OPERATING METHOD THEREOF

Title (de)

ROTATIONSPUMPE MIT SICHERHEITSVENTIL UND BETRIEBSVERFAHREN DAFÜR

Title (fr)

POMPE ROTATIVE À SOUPAPE DE SÉCURITÉ ET SON PROCÉDÉ DE FONCTIONNEMENT

Publication

EP 3090184 B1 20190508 (EN)

Application

EP 14830728 A 20141223

Priority

- IT TO20131083 A 20131230
- IB 2014067269 W 20141223

Abstract (en)

[origin: WO2015101904A1] Rotary pump (50) connectable to a thermal engine, comprising: a housing (40) comprising a pumping chamber (15) having an internal wall (42); a rotor (18) adapted to rotate substantially tangentially to said internal wall (42) in correspondence of an area of tangency (17); a vane (22) mounted radially slidable within a slot formed in the rotor (18), wherein during the rotation of the rotor (18) said pumping chamber (15) is divided by the vane (22) and the rotor (18) into a suction chamber (33) into which a fluid to be compressed is sucked and a compression chamber (38) in which the fluid is compressed; a safety valve (20) formed in the internal wall (42) near the area of tangency (17) between the rotor (18) and the internal wall (42) and adapted to discharge a residual fluid outside the pumping chamber (15), said rotary pump (50) further comprising: a discharge outlet (11, 12) of the safety valve (20) formed in the pumping chamber (15) in a zone near the area of tangency (17) between the rotor (18) and the internal wall (42); and an interspace (35) formed within the housing (40) and connected to an exhaust duct (16) adapted to discharge the fluid outside the pumping chamber (15), said discharge outlet (11, 12) being formed with a radial opening relative to the axis of the pumping chamber (15) and being adapted to put the pumping chamber (15) in communication with the interspace (35).

IPC 8 full level

F04C 29/12 (2006.01); **F04C 18/344** (2006.01)

CPC (source: EP)

F04C 18/3441 (2013.01); **F04C 29/124** (2013.01); **F04C 29/126** (2013.01); **F04C 29/128** (2013.01)

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)

WO 2015101904 A1 20150709; EP 3090184 A1 20161109; EP 3090184 B1 20190508; IT TO20131083 A1 20150701

DOCDB simple family (application)

IB 2014067269 W 20141223; EP 14830728 A 20141223; IT TO20131083 A 20131230