Title (en)

POWER UNIT

Publication

EP 0419810 B1 19930922 (DE)

Application

EP 90114822 A 19900802

Priority

DE 3932354 A 19890928

Abstract (en)

[origin: EP0419810A1] A power unit essentially consisting of a pump (2) and a cylinder (1) for driving a tool has a high-pressure space (1a) and two low-pressure spaces. The high-pressure space (1a) and the first low-pressure space (1b) are separated from one another by a piston (10). The second low-pressure space serves solely as a compensating volume (1c), the volume of the compensating space (1c) corresponding to at least the sum of the displacement volume of the piston rod (11) moved fully into the cylinder housing (15), the compression volume of the hydraulic fluid, and the stroke volume of the pump (2). <??>This design can provide an entire compact unit which requires no additional accumulator for the hydraulic medium but in which it is nonetheless ensured that even a simple construction of the pump (2) feeding the cylinder can draw in hydraulic fluid in any position of the unit. <??>Furthermore, a hydraulic circuit for controlling the power unit is described in which the low-pressure line (7') branches in front of the reversing valve (3) and is taken up to the compensating space (1c). <IMAGE>

IPC 1-7

F15B 15/18

IPC 8 full level

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CPC (source: EP KR US)

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Cited by

NL1014253C2; DE102011009044B4; DE102006013615A1; DE102011009044A1; DE202015009638U1; DE102013108776A1; DE102004037697A1; DE102004037697B4; EP3434331A3; WO2007068234A1; WO9934119A1; DE202015009395U1; WO2016119819A1; EP3434331A2; US10293192B2; US10589135B2

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