

Title (en)

Hydraulic system to supply a variable displacement pump.

Title (de)

Hydrauliksystem zur Versorgung einer Verstellpumpe.

Title (fr)

Système hydraulique pour fournir une pompe à débit variable.

Publication

**EP 0446757 B1 19940824 (DE)**

Application

**EP 91103253 A 19910305**

Priority

US 49219890 A 19900313

Abstract (en)

[origin: US5020324A] A charge flow distribution valve routes all charge pump flow into a main pump until the main pump has sufficient inlet pressure. The valve opens to a first stage which routes excess charge flow to lubrication circuits. At a slightly higher main pump inlet pressure, it also routes oil to an inlet of the charge pump.

IPC 1-7

**F15B 1/00**; **F15B 11/05**

IPC 8 full level

**F04B 49/00** (2006.01); **F15B 11/02** (2006.01); **F15B 21/04** (2006.01)

CPC (source: EP US)

**F04B 49/007** (2013.01 - EP US); **F15B 11/162** (2013.01 - EP US); **F15B 2211/20546** (2013.01 - EP US); **F15B 2211/20576** (2013.01 - EP US); **F15B 2211/40515** (2013.01 - EP US); **F15B 2211/45** (2013.01 - EP US); **F15B 2211/611** (2013.01 - EP US); **F15B 2211/613** (2013.01 - EP US); **F15B 2211/615** (2013.01 - EP US)

Cited by

CN104533766A; DE102011115805B4; EP3516272B1

Designated contracting state (EPC)

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DOCDB simple family (publication)

**US 5020324 A 19910604**; AT E110444 T1 19940915; CA 2038112 A1 19910914; CA 2038112 C 19940816; DE 59102593 D1 19940929; EP 0446757 A1 19910918; EP 0446757 B1 19940824; ES 2057630 T3 19941016; JP 3070962 B2 20000731; JP H04211704 A 19920803; MX 172032 B 19931129

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**US 49219890 A 19900313**; AT 91103253 T 19910305; CA 2038112 A 19910312; DE 59102593 T 19910305; EP 91103253 A 19910305; ES 91103253 T 19910305; JP 4820391 A 19910313; MX 2472991 A 19910227