

Title (en)
METHOD FOR CONTROLLING VARIABLE DISPLACEMENT PUMP

Title (de)
VERFAHREN ZUR STEUERUNG EINER VERDRÄNGERPUMPE

Title (fr)
PROCÉDÉ DE COMMANDE DE POMPE À DÉPLACEMENT VARIABLE

Publication
EP 2703652 A1 20140305 (EN)

Application
EP 12870275 A 20120302

Priority
JP 2012055315 W 20120302

Abstract (en)
A method for controlling a variable displacement pump by calculation by a controller using a closed-center-type directional control valve, the method allowing effective utilization of the variable displacement pump while avoiding the risk of engine stall is provided. [Means for Resolution] The method includes the steps of: determining a first virtual discharge pressure from the real discharge flow rate of the variable displacement pump based on a characteristic curve defining the relation between discharge pressure and discharge flow rate of the variable displacement pump; determining a virtual bleed-off flow rate based on a virtual bleed-off area of the closed-center-type directional control valves determined according to the operation amount of the directional control valves, and determining a second virtual discharge pressure of the variable displacement pump based on a value obtained by subtracting the actuator flow rate and the virtual bleed-off flow rate from the virtual discharge flow rate of the variable displacement pump; and controlling the variable displacement pump based on a smaller value of the first virtual discharge pressure and the second virtual discharge pressure.

IPC 8 full level
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Cited by
DE102022200249A1; US11913477B2; US9784368B2; US10393260B2

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