

Title (en)  
IMPROVED LOAD-PLUS VALVE FOR VARIABLE DISPLACEMENT PUMPS

Publication  
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Application  
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Abstract (en)  
[origin: WO8201045A1] A "load-plus" valve is oftentimes utilized in the servo-system for a variable displacement pump to maintain pump discharge pressure above a minimum pressure level and above a load pressure in a fluid actuator. Valves of this type normally employ a spring interconnected between a modulating spool and a piston which is responsive to load pressure to modulate a control pressure, controlling the displacement of the pump. Valves of this type thus provide a constant discharge pressure margin over load pressure while also providing the pump's minimum standby pressure. However, valves of this type further provide pump packages which are somewhat bulky in design. The improved load-plus valve (22) of this invention provides a spool (49) movable between a first position communicating a control pressure (P<u>C</u>) from a pump (11) to a control chamber (24) and a second position at least partially venting the control chamber (24), and a piston (57) movable between a first position isolating the piston (57) from the spool (49) to enable the spool (49) to move independently of the piston (57) and a second position engaging and moving the spool (49) to modulate the control pressure (P<u>C</u>) in response to variations in a load pressure (P<u>L</u>) in a fluid actuator (13).

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IPC 8 full level  
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