

Title (en)
HYDRAULIC MACHINES AND SYSTEMS

Title (de)
HYDRAULISCHE MASCHINEN UND SYSTEME

Title (fr)
MACHINES ET SYSTÈMES HYDRAULIQUES

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Application
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Abstract (en)
A hydraulic system employing an electronically commutated fluid working machine having a plurality of working chambers, each having one or more electronically controllable valves which are actively controlled by at least one controller to regulate the net displacement of working fluid into or out of low- and high-pressure manifolds on a cycle by cycle basis, to meet a demand indicated by a demand signal. The high-pressure manifold has at least one additional outlet, regulated by an electronically controllable outlet valve, such as a proportional flow valve. If the demand indicated by the demand signal would be expected to cause pulsatile flow or vibrations which may excite resonant modes, the at least one controller causes the displacement of working fluid by the working chambers to be in excess of the demand indicated by the demand signal, and the at least one controller simultaneously (at least partially) opens an electronically controllable outlet valve to allow some of the excess flow to leave therethrough, such that the net displacement of fluid meets the demanded displacement of fluid, while mitigating the pulsatile flow or undesirable vibrations.

IPC 8 full level
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