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(54) Title: IMPROVEMENTS IN FLUID CONDITIONING

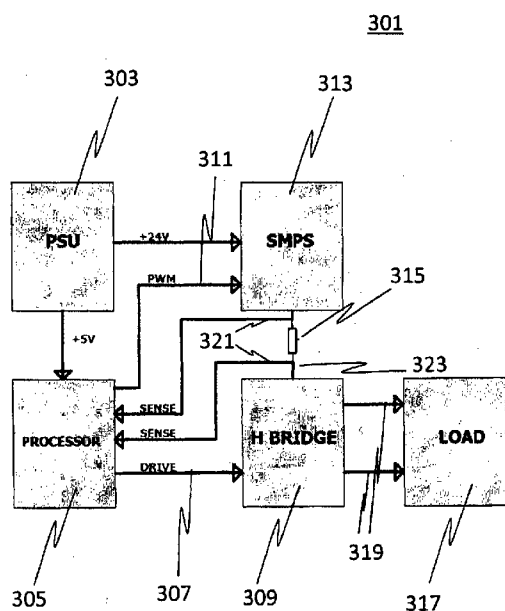


Figure 3

(57) Abstract: A fluid conditioning control system for driving one or more coils in a fluid conditioning system with a target load current to generate an alternating magnetic field directed at a fluid, the control system comprising a controller, a switch mode power supply circuit and a push pull AC drive circuit, wherein the controller is arranged to develop a first variable output having a frequency range that sweeps between a minimum frequency and a maximum frequency, and further arranged to develop a second variable output in the form of a duty cycle controlled signal, wherein the switch mode power supply circuit is arranged to develop a variable supply voltage to the AC drive circuit in response to the second variable output and a current sense circuit, and the AC drive circuit is arranged to develop a drive signal for developing a target load current in response to the first variable output and the variable supply voltage, thereby forming a current feedback loop.

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