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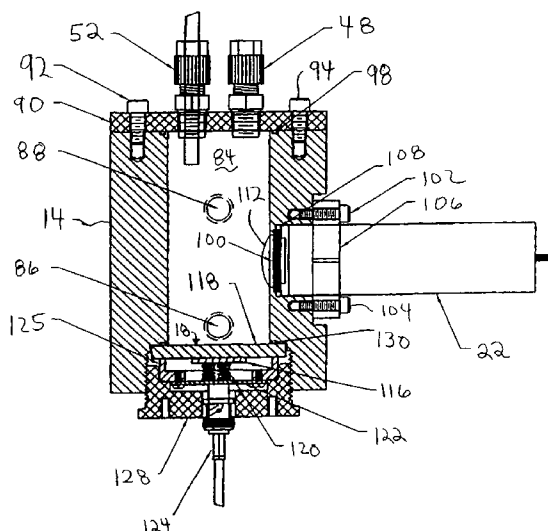
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(54) Title: METHOD AND APPARATUS FOR CAVITATION THRESHOLD CHARACTERIZATION AND CONTROL



(57) Abstract: An apparatus and method for characterizing cavitation that occurs in a fluid exposed to acoustic energy. The apparatus comprises a vessel (14) for holding the fluid; an acoustic energy generating means (118) for generating acoustic energy, the acoustic energy generating means (118) being positioned to transmit the acoustic energy into the fluid while the fluid is held in the vessel (14); and a cavitation detection means (22) for detecting cavitation in the fluid held in the vessel (14). In a preferred embodiment, the cavitation detection means (22) comprises a light detection means, such as a photomultiplier tube, that detects sonoluminescent emission from the fluid. The method comprises the steps of exposing a volume of process fluid to acoustic energy at a specified power level; measuring the photon output from the fluid over a period of time; and when the photon output deviates from a desired level, initiating a remedial step to bring the photon output back to approximately the desired level.

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