

ABSTRACT

LIQUID DISPENSING APPARATUS AND METHOD

A liquid dispensing method and apparatus in which liquid is dispensed from chambers, that can be pressure vessels, to a flow circuit. A valve network is designed such that when one chamber functions in a dispense mode of operation another chamber functions in a return mode of operation in which unused liquid is sent back to such chamber so that liquid is continually circulated. The chamber or vessel undergoing the return mode of operation is vented through a valve that is either a pressure regulation valve having a set point of pressure or a remotely activated control valve response to liquid pressure at the point of use. In such manner internal pressure within the chamber or pressure vessel undergoing the return mode of operation is regulated to in turn regulate liquid pressure at the point of use. In case of pressure vessel operation, gas pressure within each pressure vessel can also be regulated in conjunction with internal pressure during the return mode to in turn regulate liquid pressure at the point of use. As a result of such pressure regulation, constant flow rate of liquid through the flow circuit and at the point or points of use can be assured.

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Fig. 1