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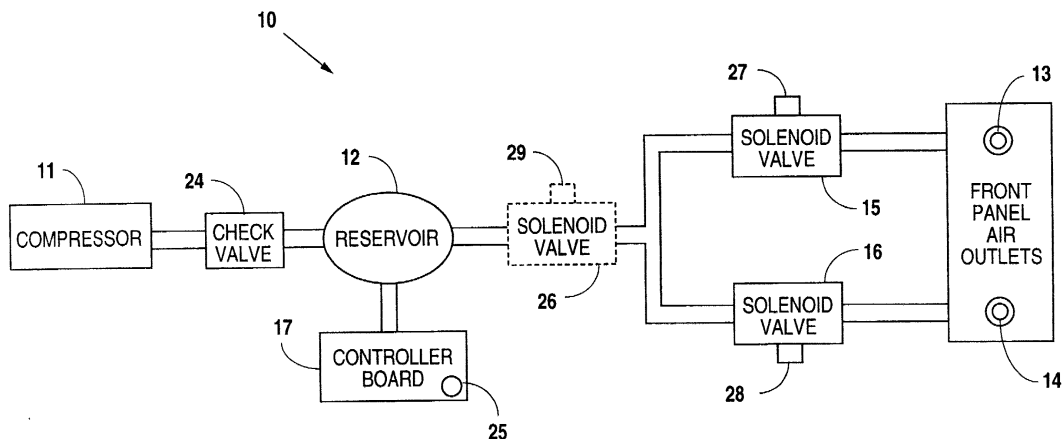
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(54) **Medical pumping apparatus and related methods**

(57) A medical pumping system (10) for use with a therapeutic patient treatment system generally comprises a reservoir (12) for holding a compressed fluid, with a fluid outlet (13,14) and a valve (15,16) for controlling flow of fluid from the reservoir through the outlet; a compressor (11) for supplying pressurised fluid to the reservoir (12); and a controller (17) for controlling the supply of pressurised fluid to the reservoir (12) and for controlling the flow of fluid from the reservoir through the outlet (13,14). The controller (17) has associated therewith a sensor (25) for measuring the internal pressure of the

reservoir, and is adapted to provide the reservoir with an initial quantity of fluid on an initial cycle of operation; to operate the valve (15,16) to release the initial quantity of fluid from the reservoir (12) through the valve; to measure the internal pressure of the reservoir (12) while the valve (15,16) is operated; and to provide the reservoir with an additional quantity of fluid, less than the initial quantity of fluid based upon a comparison of the internal pressure of the reservoir ( $P_{eq}$ ), after the release of the initial quantity of fluid, with the target pressure ( $P_{targ}$ ).



**Fig. 3**



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# EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 7963

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			A61H A61B A61F G05D F04B F04D F04C
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>28 June 2001</b>	Examiner <b>Millward, R</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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