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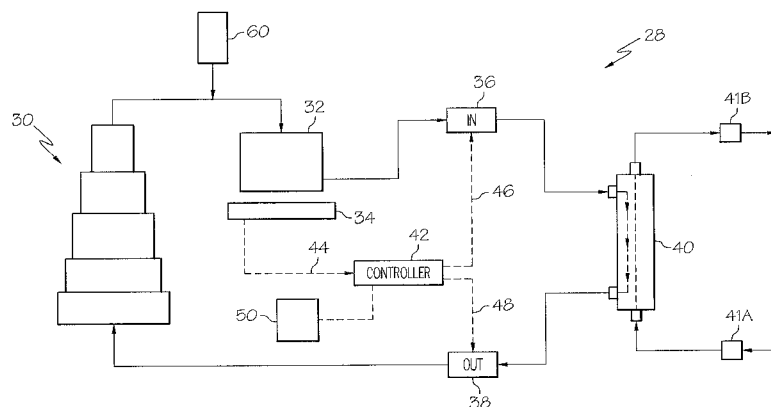


FIG. 1

(57) Abstract: In a regenerative dialysis system, in a method for controlling a regenerative dialysis system, and in a controller for a regenerative dialysis system, an embodiment of the system comprises an input pump that pumps fresh dialysate fluid into a dialyzer at an input rate. An output pump pumps used dialysate fluid from the dialyzer at an output rate. An ultrafiltration rate of the system is related to the output rate relative to the input rate. A sorbent cartridge filters the used dialysate fluid to generate the fresh dialysate fluid. A controller controls the ultrafiltration rate of the system in response to a flow rate of the dialysate fluid through the sorbent cartridge.