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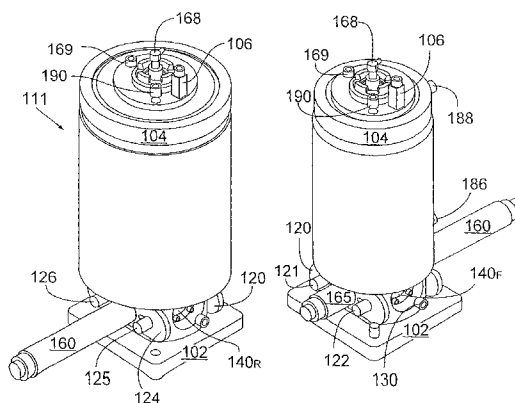
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(54) Title: AUTOMATED LOW-VOLUME TANGENTIAL FLOW FILTRATION PROCESS DEVELOPMENT DEVICE



(57) Abstract: An automated process development device providing flexibility and accuracy for the investigative development of tangential flow filtration processes. The development device is used for evaluating the process parameters of a laboratory scale tangential flow filtration process with an eye towards developing a larger, commercial scale process. The process development device - operable to an unprecedented minimum reliable recirculation volume of less than approximately 20 milliliters - includes: (a) a reservoir having a distinct mixing zone; (b) a tangential flow filtration module; (c) conduits defining, together with the distinct mixing zone and the tangential flow filtration module, a fluid process stream through which a liquid sample is recirculated; (d) pumps for driving the flow of the liquid sample through the fluid process stream; (e) valves for regulating the flow of the liquid sample through the fluid process stream; (f) sensors for acquiring data about the liquid sample as it flows through the fluid process stream; and (g) an electronic data processing network capable of receiving, transmitting, processing, and recording data associated with the operation of the pumps, valves, and sensors, the recorded data being sufficiently comprehensive to determine the conduct of the tangential flow filtration process at a substantially larger scale.



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