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(54) Title: OPERATION OF IMMERSSED MEMBRANE USING CROSS FLOW

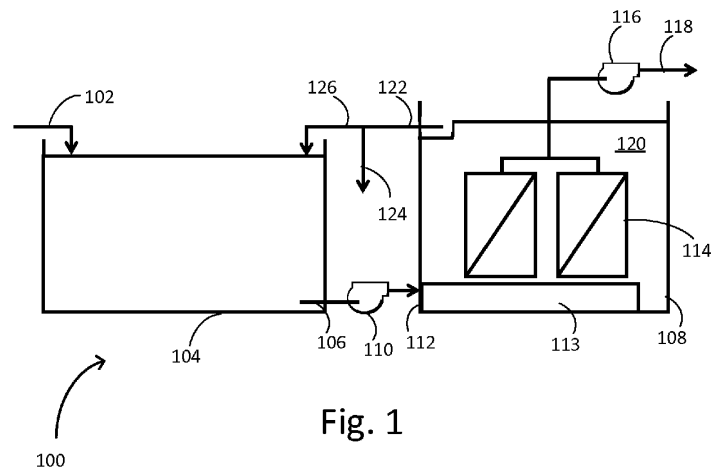


Fig. 1

(57) Abstract: A method of operating an immersed membrane filtration system includes a step of providing a liquid flow, for example a recirculation flow, past the surface of the membranes to clean, or help clean, the membrane surface. Since immersed outside-in membranes are effectively filtering out clean water from the effluent, they are also dewatering the effluent. To avoid solids concentration, most immersed membrane systems require that a certain amount of effluent liquid is recirculated back to an area upstream of the membranes. This is called a recirculation flow in general and is, for example, associated with the flow of return activated sludge (RAS) in a membrane bioreactor (MBR). In systems and methods described herein, we control a recirculating flow to have enough energy to scour the surface of the membranes, thus combining its use of providing liquid to the membranes and scouring their surfaces.

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