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(54) Title: BATCH-OPERATED REVERSE OSMOSIS SYSTEM WITH MULTIPLE MEMBRANES IN A PRESSURE VESSEL

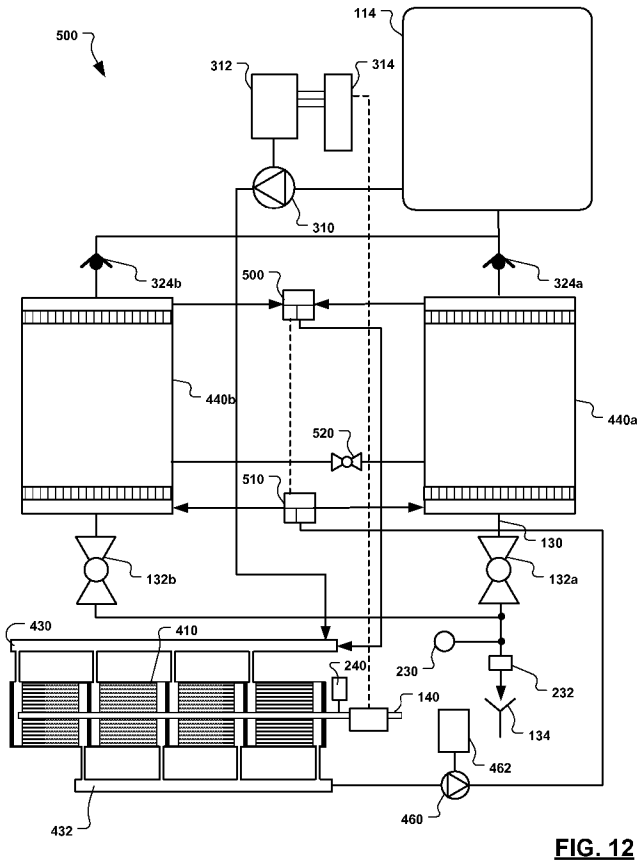


FIG. 12

(57) Abstract: A reverse osmosis system and method for operating the same includes a fluid reservoir, a valve and brine feed tank (114) in fluid communication with the fluid reservoir through an input. The system also includes a high pressure pump (310) and a pressure vessel in 'fluid communication with the fluid reservoir through the high pressure pump. The pressure vessel (410) comprises a permeate outlet (140). The brine feed tank is in fluid communication with the pressure vessel. During a permeate production cycle, the high pressure pump pumps additional fluid under high pressure from the fluid reservoir into the pressure vessel using a high pressure pump. The pressure vessel communicates brine fluid into the brine feed tank. The high pressure pump raises a pressure in the pressure vessel until an amount of permeate is produced from a permeate output of the pressure vessel. Embodiments include two alternatingly operated brine tanks, gravitational inflow means and multiple feed pressure vessels.

WO 2009/088870 A1

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**Declarations under Rule 4.17:**

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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