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(57) Abstract :

The present invention discloses a system for generating fresh water from seawater. The system comprises a reverse osmosis unit, a distillation unit, a clarifier tank, and a post-treatment tank. The reverse osmosis unit comprises a semi-permeable membrane configured to remove impurities from the seawater and correspondingly produce permeate water. The distillation unit is configured to remove impurities by way of heating the permeated water to produce freshwater. The clarifier tank is fluidically connected to the reverse osmosis unit and configured to remove large particles and debris from the seawater and further supply the seawater to the reverse osmosis unit. Further, the post-treatment tank comprises a pH sensor to monitor the pH value of the freshwater and further adjust the pH of the freshwater to a predefined pH. Furthermore, the system comprises a control unit configured to optimize the operation of the reverse osmosis unit and the distillation unit.

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