NEW FLOATING SOLAR DESALINATION PLANT

Description:

Currently, desalination plants have drawbacks due to the fact that saline residues and polluting substances are produced in the salt extraction process; besides that they suppose a very high expense in installations and in electrical consumption. These two mentioned drawbacks have a fundamental character in the scope of the development of this patent. The objective of this invention consists in the installation of a model of structure for condensation and desalination of water by means of solar energy for floating systems, located on the maritime surface or sheet of salt water. This structure is capable of obtaining fresh water through the conversion of the states of the water, thanks to the solar radiation that directly affects the installation of some solar collectors, increasing the temperature of the water to its vapor state and condensing when the contact with the structural cold body that surrounds the condenser assembly object of the invention model.

Keywords:
Solar Desalination, Heat-Pipe, Vacuum Tube, Solar Still

Sectors:
Engineering, Environment and Energy, Construction

Areas:
Marine and Aquaculture, Energies, Energy methods and procedures, Infrastructure improvements, Construction

Advantages:

The concept of solar desalination plant by which the present invention is exposed is characterized by the use of renewable energy sources and the improvement in terms of saline waste produced, since the process does not generate brine. Starting from the basis that where there is more insolation, it is where fresh water is most necessary. A system is proposed which allows taking advantage of the heat of the sun to vaporize and distill the water. It presents significant advantages since in the months of greatest water needs is when the system allows the most performance. In addition, another of its advantages is that the energy cost is zero since all the energy comes from the sun. For places where radiation is not so high, the system is equipped with a set of solar collectors capable of increasing the temperature gradient well above ambient temperature.

Uses and Applications:

Water technology sector. Obtaining desalinated water from a sustainable process aimed at both public and private companies that are dedicated to desalination with the use of renewable energies.

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