

TABLE ABSTRACTS

There is almost no water left on earth that is safe to drink without purification after 20-25 years from today. This is a seemingly bold statement, but it is unfortunately true. Only 1% of Earth's water is in a fresh, liquid state, and nearly all of this is polluted by both diseases and toxic chemicals. For this reason, purification of water supplies is extremely important. Keeping these things in mind, we have proposed a model which will convert the dirty/saline water into pure/potable water using the renewable source of energy (i.e. solar energy). The basic modes of the heat transfer involved are radiation, convection and conduction. The results are obtained by evaporation of the dirty/saline water and fetching it out as pure/drinkable water. Important Features:

- Parabolic Reflection is the main design feature of this water purification.
- Copper coil spirally wound on a G.I. pipe is a unique design which absorbs lot of heat.
- Thermal conductivity of copper is 400W/mK which is very high when compared to other commercially available metals.
- Has 2 stage purification system.
- We will be getting Purified water heated upto 60°C and also gets cooled down to 35°C after the condensation process.

Through this project work, we have learnt the following:

1. The working principle of desalination plant.
2. Application of solar heat.
3. The selection of materials required for the work.
4. The design aspect of the work.
5. The hands-on experience of variation manufactory process and operation such as joining, bending, welding, drilling and cutting process.
6. Assembly of various parts made.
7. Report writing.