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Solar still analyze with various water depth – a review

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Abstract:

Everyday people life water plays an critical role, due to population and industrialization drinking water is a rare one now a days. Solar desalination based thermal application is way to produce purify water in the world. Cords; stepped; wicks; absorber shapes; and rotating parts were used maintain minimum water depth of solar distiller.

Introduction

Tiwari and Tiwari [1] developed an improved internal heat transfer of solar distiller. It demonstrated that the existed modeling revealed more accurate values of evaporative and convective HTCs of the solar distiller compared to Kumar and Tiwari model [2]. Sorayan and Shukla [3] developed correlation internal HTCs were shown in fit verification between experimental and theoretical findings. They reported a dunkle's correlations were not valid for the large titling cover of glass and the spacious distance inbetween evaporating & condensing surfaces. Furthermore, Tiwari and Tripathi [4] have experimentally considered water depth about 0.12, 0.1, 0.05m, heat transfer performance of an active solar distiller. It was indicated that the evaporative and convective HTCs between internal cover and water were remarkably affected water of depth of the still. Dwivedi and Tiwari [5] comprehensively conducted and compared several thermal models investigate the heat transfer behavior within passive solar distiller under wintertime & straw-hat with three various aquatic pits (0.03, 0.02, 0.01 m). It was noticed that there was an insignificant effect in the convective HTCs when the aquatic pits are increased about 0.01 m - 0.03 m. Similar research suggests that water depth influences an internal mass produced in heat transfer by double, single slope system considered experimentally.

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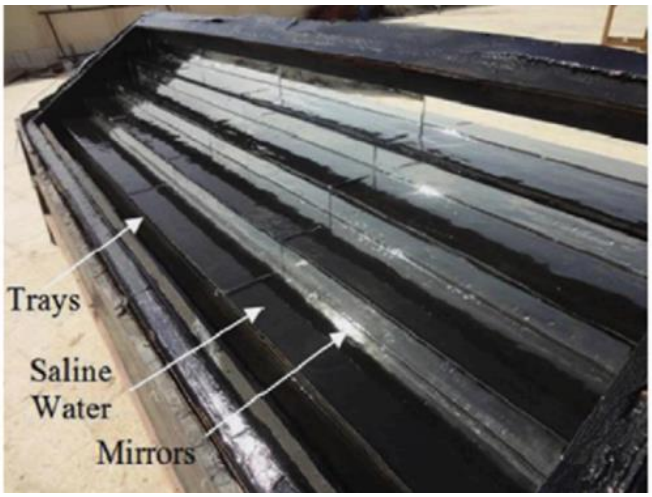

Fig-1 Internal reflector

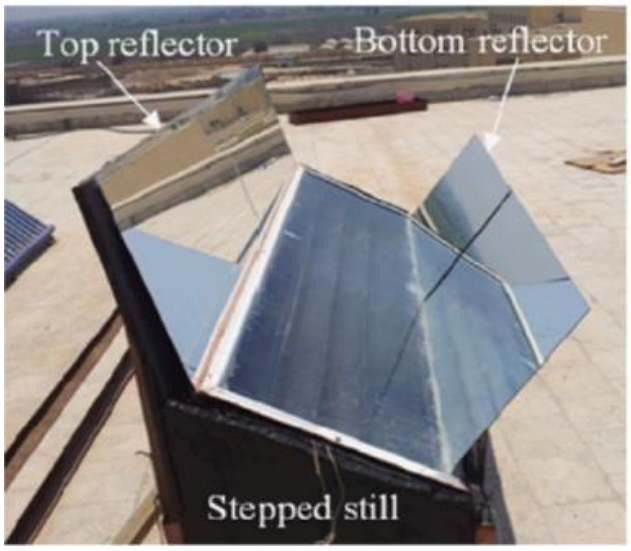

Fig-2 External reflector

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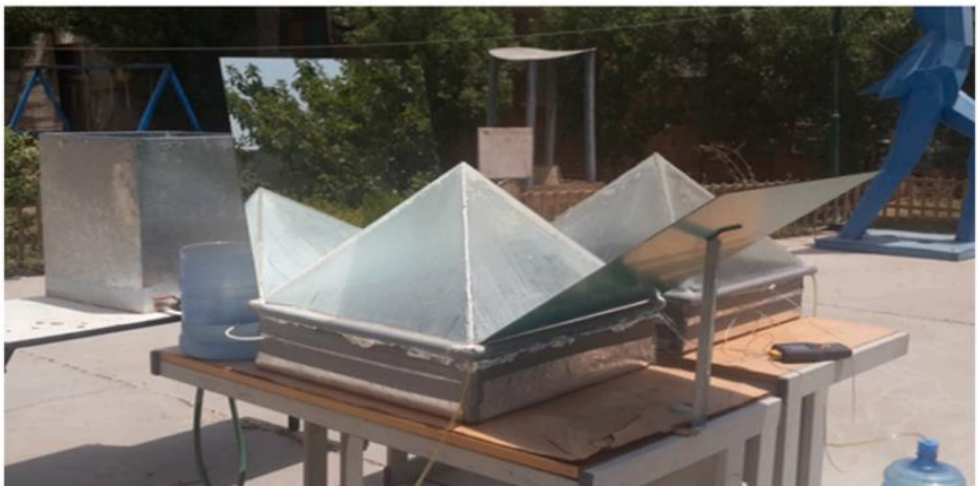

Fig- 3 solar distiller with mirror & cords wick

Fig - 4 CWSS – spiral collector

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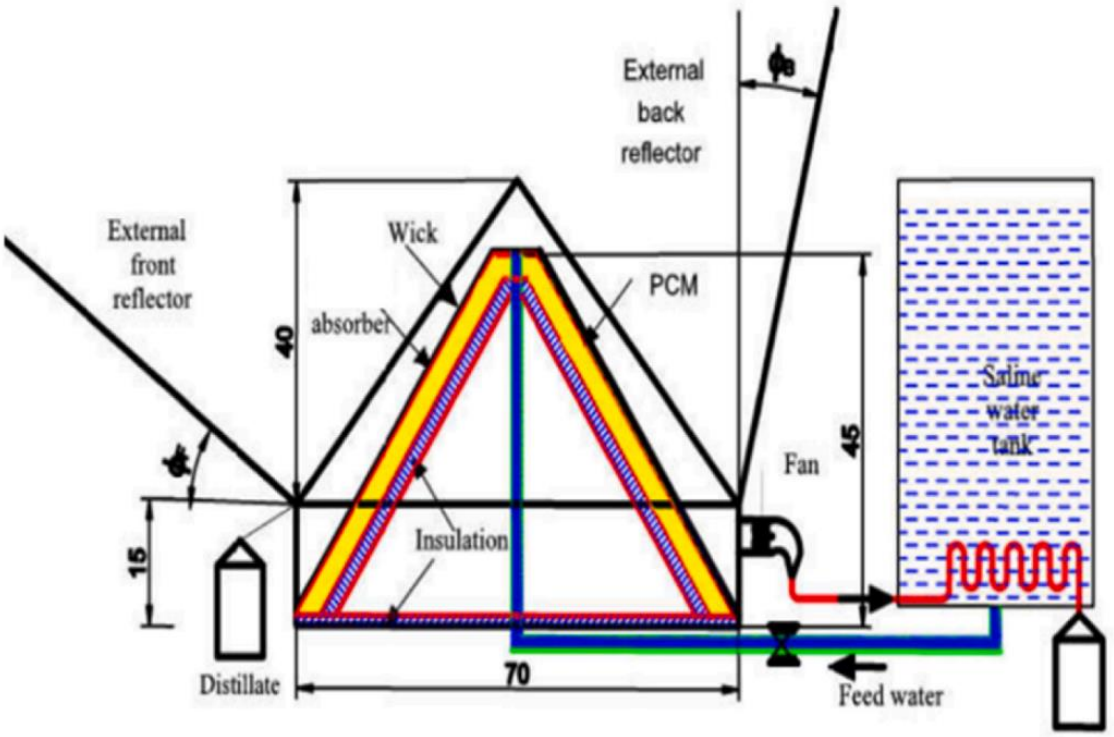

Fig. 5 conical diagram (PSS)

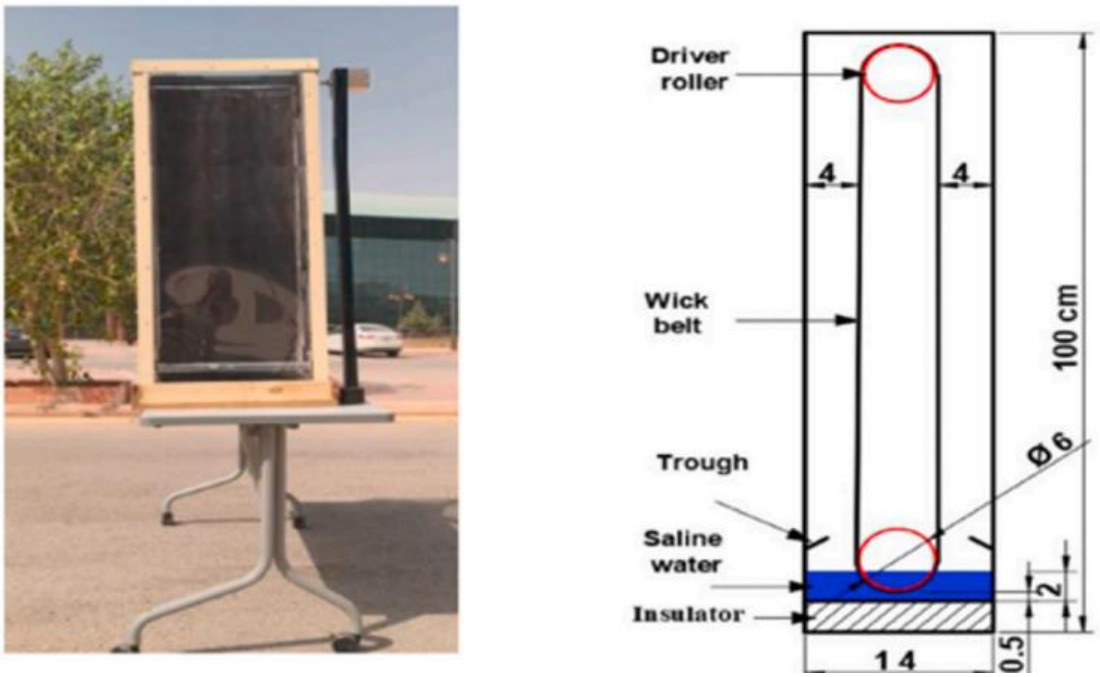

Fig. 6. Vertical SS with (rotational belt)

Conclusion

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Productivity of the solar distiller inversely proportional to depth of water, so researchers decrease water depth automatically productivity should increased. This chapter explains the brief conclusions in these sections, techniques related to the maintain if water depth in the minimum levels. Finally author enhance the distillate output in the great way.

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