STUDY ON A COUNTER - FLOW HEAT EXCHANGER FOR ENERGY STORAGE

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ABSTARACT

The experimental assessment of a phase change material-based thermal energy storage device is presented in this work (PCM). It is a part of a thermal storage system that generates hot water, heats and cools buildings, and uses solar collectors and strong heaters. It consists of a PCM tank and a heat exchanger with staggered fins (HE). Experimental findings demonstrate the tank's ability to both increase system output and satisfy the demand for a DHW fitting. The density of the stored energy and the rate of heat transfer are designed into the tank.

Key words – SH, LH, Energy storage, PCM, HX.