

***Design of an Automatic Filter Pump System as a Regulator of Total Dissolved
Solid Levels in Solar Panel-Based Koi Fish Pond***
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ABSTRACT

Koi fish (Cyprinus carpio) is a type of ornamental fish with high economic value. Water quality management is an important component for the cultivation of ornamental fish, and especially koi fish. The quality of koi fish depends on the oxygen content in the water, the pH and also the dissolved solids in the water. The filter media as a water quality control utilizes a pump to raise the water. The addition of solar panels for independent energy for koi fish cultivation media can reduce the cost of electrical energy used. The test results show that the maximum power value produced by the panel at 12.00-15.00 is 4.919 Watt. While the maximum power required by the pump is 9.728 Watt. The energy of the pump in one day is 27.67 Wh and the total energy of the solar panels in one day is 52.8 Wh.

Keywords: *Koi Fish, Solar Panels and TDS*