



**ADRITEC**  
YOUR WAY

**ENGINEERING  
PRODUCTS**



Engineering Products  
Solar Energy Pumps

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8c1- Solar Energy Pumping Units

## System Description

Solar pumping systems can be applied to daily water use (ground water), agricultural irrigation, forestry irrigation, desert control, pasture animal husbandry, wastewater treatment engineering, landscape irrigation and lighting. Adritec is offering a comprehensive solution for a solar pumping system which includes energy storing devices. It improves the reliability of the system at the same time it reduces the overall cost of construction and maintenance. In recent years, with the promotion of the utilization of new energy resources, solar pumping systems are more and more used in municipal engineering, such as city centre squares, parks, tourist spots, resorts and hotels, landscape and fountain projects.

## The Solar Single Pump System

A single pump system consists of only one pump, a power-matched solar array and an inverter. The aim of optimization is to use PV modules as less as possible on the promise of filling the requirement of head and capacity. The rotational speed of the pump is regulated according to the sunshine on the solar array; when the intensity of sunlight reaches peak, the pump runs at the rated speed, and the output approaches the peak power of the solar array. When the sunlight is not abundant, the speed of pump is lower than the rated speed; when the speed becomes zero, the system stops working. There are big differences between solar pumping systems and traditional pumping systems in system design, and the system should be optimized according to the requirements of head, capacity, and local conditions of sunlight.



## Optimization of Multi-pump Systems:

There are several pumps in a multi-pump system. They are driven either by only one high-power inverter, or by several matching inverters. In the case of large capacity demand, the operation of the multi-pump system is more flexible. By switching solar arrays and pumps, all of the pumps run in MPPT mode when the sunlight is abundant, while some pumps will be shut down and all solar arrays supply power will intensively feed or the other running pumps when sunshine is weak. Based on the optimization of a single pump system, the range of speed can be further optimized, and the system always works with high efficiency.



Movable Solar Panels



Fixed Solar Panels

*The opportunities are tremendous, and the options are wide. Please do not hesitate to contact Adritec Engineering Dept. for further information, design, supply and training on the use of solar pumps in irrigation.*