SolarInnovate Energy Solutions

Juba Solar Pumping System Design

Overview

How do you design a solar water pumping system?

When designing a solar pumping system, the designer must match the individual components together. A solar water pumping system consists of three major components: the solar array, pump controller and electric water pump (motor and pump) as shown in Figure 1.

What does a solar water pump manufacturer/supplier do?

solar water pump manufacture/supplier will have tables or computer software which specify the flow from the solar water pumping system for various heads and solar irradiation. The “solar water pump designer” shall be capable of: Using the manufacturers data sheets or software to select the most appropriate solar water pumping system.

What is a solar-powered pump?

Solar-powered pumps are a dynamic and growing field that rapidly changes. The system designer may need to research the different solar-powered pumps available on the market at the time of the system development. Solar pumping for village water supply systems Training Manual 44 Module 7 Dimensioning the solar array 7.1 Introduction.

What are the components of a solar water pumping system?

A solar water pumping system consists of three major components: the solar array, pump controller and electric water pump (motor and pump) as shown in Figure 1. Note: Motor and pump are typically directly connected by one shaft and viewed as one unit, however occasionally belts or gears may be used to interconnect the two shafts.

What is a solar water pump?

A solar water pump theoretically consists of three key components: a pump control system that may be just an on-off switch or may be a more complex

electronic unit, a motor and the pump; however, in practice they are considered as one unit and generally called the “water pump” or in this guideline the “solar water pump”.

How to choose a solar water pumping system?

The type of solar water pumping system: borehole/well (submerged), floating or surface will depend on the water source. If the source is a borehole (proposed or existing) or deep well, then a submersible pump that fits the borehole or well should be selected. If the water source is a river, then a surface pump should usually be selected.

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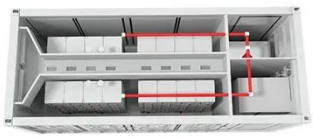

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