A-Core Container

Colombia solar Water Pump Inverter Pump Station Project

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 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.

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.

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.

Where is a solar water pump located?

In these systems the solar water pump is located within the borehole or well. These pumps are generally available for 100 mm (4 inch) and 150 mm (6 inch)

boreholes. The solar array is typically located near the top of the borehole/well and the water is generally pumped to a storage tank. The pump controller is typically located at the solar array.

When should a solar water pumping system be designed?

solar water pumping system. When the required daily flow (volume of water) varies from month to month then the system will need to be designed on the worst month. The worst month will be when the ratio between solar energy available and flow required is smallest.

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