

How big a water pump can a 3000 watt solar power system support





Overview

What is a solar water pump sizing calculator?

The Solar Water Pump Sizing Calculator is an essential tool for individuals who rely on solar power to pump water. By providing the required input data, users can accurately calculate the minimum solar panel wattage and battery capacity required to meet their water pumping needs.

How much wattage does a solar water pump need?

Let's say you want to pump water from a depth of 50 feet at a rate of 5 GPM using a 12V pump that is 70% efficient. The region receives an average of 6 hours of sunlight per day, and you want to use a 12V solar panel and battery. Using the Solar Water Pump Sizing Calculator, the minimum solar panel wattage required is calculated as follows:

What is the minimum battery capacity required for a solar water pump?

The minimum battery capacity required to store the energy generated by the solar panel can be calculated as follows: $\text{Battery Capacity} = (2.34 \times 6) / 12 = 1.17$ Therefore, the minimum battery capacity required is 1.17 Ah. The Solar Water Pump Sizing Calculator is an essential tool for individuals who rely on solar power to pump water.

How to choose a solar water pump?

After figuring out the solar array size, pick the right pump. Look at your water needs and the pressure. Choose a pump that can handle your daily water use and fits with the solar array. The number of solar panels needed to run a 1 hp water pump changes with the system's details. A solar pump design calculation excel tool can give you a rough idea.



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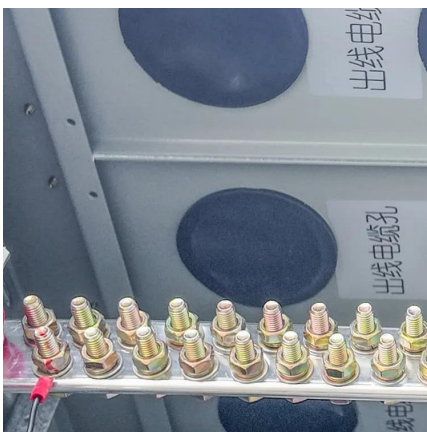


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Instructions For Utilizing The Calculator
Formula
Illustrative Examples
Illustrative Table Example
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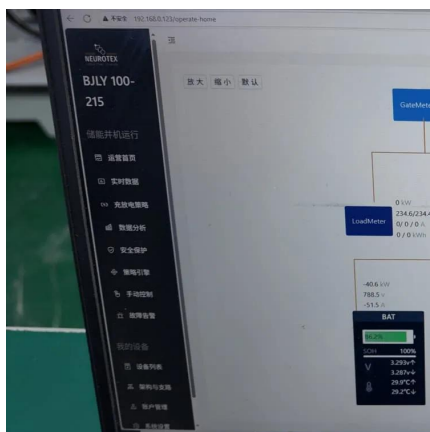


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