

Q. How do Dankoff SlowPumps and FlowLight Booster Pumps work?

A. The Dankoff Solar Water Pump is designed to be powered by solar panels, batteries, or AC from your generator or grid. The most economical way to use a Dankoff Pump is to run it “Array Direct”, meaning that the pump is wired to the solar panels through a controller, and it only runs during the day, when the sun hits the solar panels. Usually two, three or four 90 watt solar panels are used. With this kind of set up, water is pumped into an open tank which gravity feeds to wherever it is needed. Dankoff SlowPump models are usually used when pumping into an open tank. Unlike many other pumps, the Dankoff SlowPump will typically operate all day long, whenever the sun hits the panels, until the tank becomes full. Since they pump small amounts of water over a long period of time, they can be sized considerably smaller than a typical grid-powered centrifugal pump, which is designed to give a large blast of water for a few minutes, then shut off. Various models are available that can pump as high as 440 feet or provide as much as 1500 gallons per day. A float switch can be installed in the tank to shut off the pump when the tank becomes full. Thus these pumps are ideal for homesteaders, ranchers, preppers, and anyone living off the grid.



Q. What if I need pressurized water for household use?

A. Dankoff Solar Water Pump models are available which can run on battery banks. Generally the Flowlight Booster Pumps are used for this application, because they have a higher flow rate for quicker pressure tank recovery. For this application, the solar panels charge the batteries, which power the pump. Typically, two or four Deep Cycle/RV/Marine batteries are connected together to produce 12, 24, or 48 volts. The rest of the system is standard, with a pressure switch that turns off the pump when the desired pressure is reached in the pressure tank.

Q. I have AC power from the grid or my inverter, but I'd like to use a Dankoff Solar Water Pump because they are simple and energy-saving. How could I do that?

A. Dankoff Pumps are designed for people who are living off the grid, whether you run the pump on DC or AC. There are Dankoff Pump models available which can run on standard 120 VAC as well as 12, 24, and 48 VDC.. Be sure your inverter is large enough that it can handle the additional load.

Q. Does a Dankoff Solar Water Pump require a controller?

A: Pump controllers are required for SlowPumps and Flowlight Booster Pumps when used without a battery (PV array-direct). A solar array without a controller (or battery) will be unable to provide the current to start or run the pump unless the sun is very bright. It may not start until mid-day. A controller acts like the transmission in a vehicle. It lowers the voltage and raises the current to run the pump, however slowly, in low-light conditions – like shifting to low gear. The controller also protects the motor from overload and over-speed and provides low-power float switch control. Controllers will increase the performance about 30% over the course of a year.

Q. Does a Dankoff Solar Water Pump require a filter?

A. The Dankoff Solar Water Pump requires a 10 micron filter to protect the pump head. Use of these pumps without a filter will void the warranty.

Q. What water sources can I use?

A. The SlowPump and Flowlight Booster Pump can pump from springs, ponds, and creeks. They can “suck” water up from the source, so they can be installed as high as 20 feet above the water source. If your water source is dirty, it is wise to pre-clean it by running it into a settling tank or pond. The dirtier the water is, the more often the filter has to be replaced.

Q. In what type of environment should I install and keep Dankoff Solar Pumps?

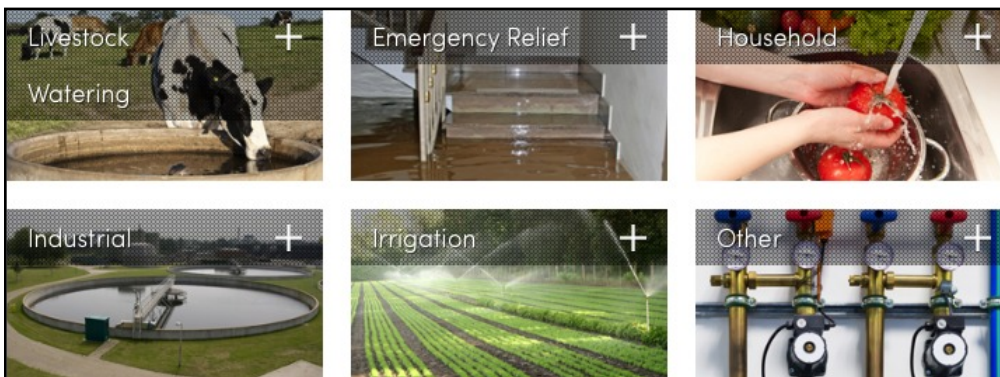
A. The Dankoff Solar Water Pump is not a submersible pump. They can tolerate occasional water splash, but must be protected from extreme wet conditions including rain. The motors require some air cooling; please allow air space around the motor. Do not wrap insulation around it. Provide coverage from rain and direct sun too. If freezing is to be expected, remove the pump or drain it for the winter season. Every Dankoff pump comes with a detailed instruction manual. Please read the manual thoroughly before installation. You can download it in advance from www.highlifterpumpservice.com

Q. Why does the Dankoff Solar Pump motor use brushes?

A. The Dankoff Solar Water Pump is designed to be an efficient pump, long-lived pump for people living off the grid. The pumps use brush-type motors for simplicity and economy. Brushes are a wearing component, but brush life generally exceeds 10 years. Brushes are easy to inspect and replace, taking just a few minutes. The instruction manuals have further advice on predicting brush life and replacing them. A brush motor offers great simplicity and low cost because it runs from DC power directly with no need for conversion to AC. Brushless motors cost much more and are not of great advantage for surface pumps. Pumps with brush-type motors and positive displacement pump heads, such as the SlowPump and the Flowlight Booster Pump, are the most energy efficient type of pump available.

Q. Does the Dankoff Solar Pump have dry run protection?

A. The Slowpump and the Flowlight Booster pump have an optional Dry Run switch which attaches to the pump head. If the pump head should overheat due to lack of water, the dry run switch will turn off the pump. It will then have to be reset manually after the pump head cools down. To prevent permanent damage to the pump head, we strongly recommend that you purchase the Dry Run switch for your Slowpump or Flowlight Booster pump.



The Dankoff Solar Water Pump is ideal for homesteaders, preppers, and anyone living off the grid.

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