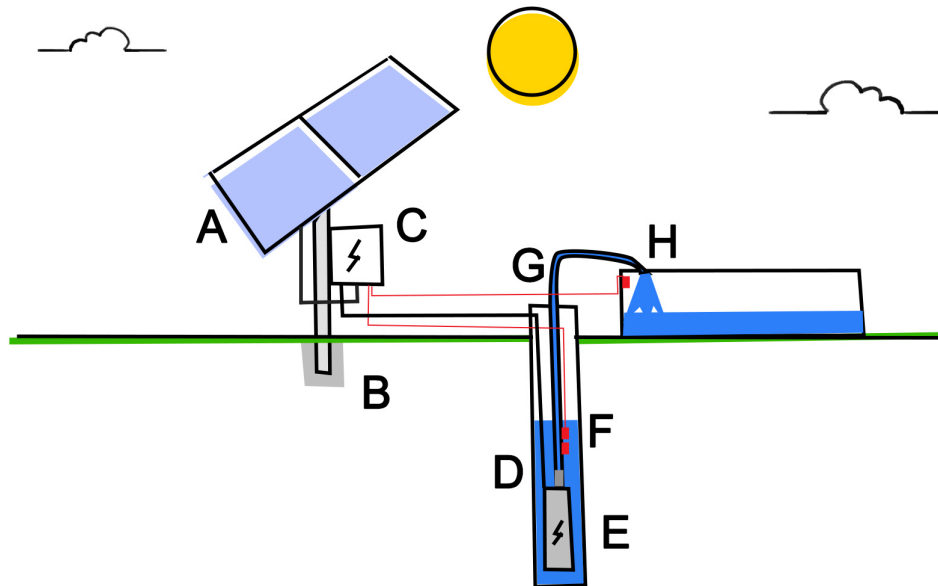


# RPS Solar Pumps



## QUICKSTART GUIDE



**A** Solar Panels are mounted facing south and should be tilted based on your latitude and season (your Manual contains detailed information about tilt angles). Waterproof MC4 connectors clip easily together and connect to a wire that goes to your RPS Controller.

**B** For solar panel mounting ideas, see [RPSsolarpumps.com/mounting](http://RPSsolarpumps.com/mounting). We also offer adjustable Pole Mount Kits that are compatible with 2" or 4" schedule 40 steel pipes. Pipes or posts should be sunk in concrete for stability.

**C** Your RPS Controller is the hub between your solar panels, the pump, the low water sensors, and the float sensor on the stock tank (sensor wires shown in red). The controller is waterproof and can be mounted anywhere near the well head or on your post.

**D** The pump's outlet is NPT female pipe thread. Your kit includes a coupling with a barb fitting that allows for 3/4", 1", or 1-1/4" 160+ psi black poly pipe to attach securely with hose clamps.

**E** RPS solar pumps utilize brushless DC motors powered by 3 drop wires. Included in your kit are crimps and heatshinks for extending the pump wire to the necessary length. One end of the pump wire will be spliced to the end of the pump, and the other end will connect directly to screw terminals in the Controller.

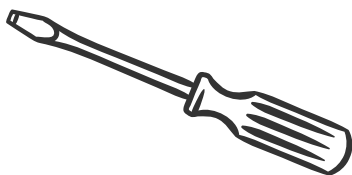
**F** A pair of low-water sensors in your kit will protect your pump from running dry. These can be extended to the necessary length with thin gauge 2-strand sensor wire (crimps and heatshinks are included) so that the two sensor probes are about 2 ft higher than the pump. At the other end, the wire from the sensors connects into the Controller.

**G** Seal the top of your well around the pipe, wire, and rope. In freezing climates, we recommend using a pitless adapter to keep pipes underground.

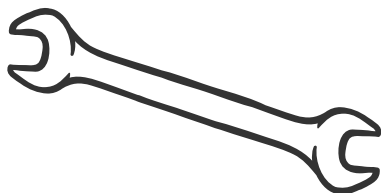
**H** At the top of a stock tank or storage tank, the float sensor included in your kit can be used to prevent overflow. A pressure switch can also be used with a pressure tank.

### Tools you'll need:

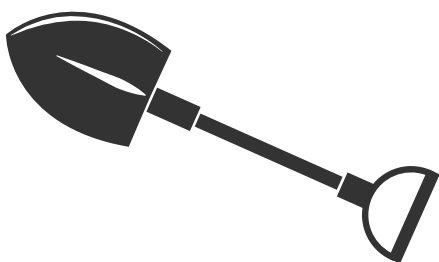
- Wire stripper/crimper
- Screwdrivers (flat & phillips head)



- Electrical tape (for attaching wires to drop-pipe)
- Teflon tape for tight thread connections (recommended)
- Two adjustable wrenches



- Heat gun or torch for the water-proof heat shrink wire sleeves (if you use a lighter, be careful!)
- Post-hole digger or shovel for mounting panels (optional)



- Voltmeter to verify solar voltages (optional)

We include all universal parts necessary for installation in our kits, but because everyone's well and installation are a little bit different, there are certain components that you will need to gather that we cannot practically include.

We do sell a 'Turnkey' kit in two sizes (100' and 200'), which includes all of these additional items already assembled and packed together. This can be very convenient if you live a long way from a hardware store or are short on time.

We love the DIY spirit of our customers and we'll help you with whatever solution works best for you!

**Necessary Equipment: wire, pipe, & rope.** These depend on the depth you set your pump.

- **Pump wire extension:** use 12-3 wire (3 conductors, no ground) to extend the pump wire to your desired depth; if you are setting your pump more than 200 ft deep, use 10-3 wire instead to reduce voltage drop.
- **Sensor wire extension:** to extend low-water sensor and float sensor wires to the desired depth (about 2 ft above the pump), use bell wire or direct burial 16 to 22 gauge 2-strand wire.
- **Pipe:** attach to your pump end to reach desired depth (black poly pipe is most common and easiest to work with). We will include a coupling for 3/4" or 1" poly pipe in your kit. We recommend using 160 psi-rated poly pipe for depths up to 300 ft.
- **Polypropylene rope (doesn't decay):** cut to desired depth and attach to the pump as a safety line. The pipe and the wire will also hold the pump, but it is preferable to allow the rope to take the pressure off the pipe and wires once you've dropped the pump.

### Recommended Equipment

- **Mounting:** RPS offers 2-panel and 4-panel mounting kits that are compatible with 2" or 4" schedule 40 pipe (pipe and cement not included in mounting kit). Alternatively, use any mounting design of your choice - creativity is encouraged!
- **Grounding rod** and bare copper wire to ground your solar panels and controller
- Something to **seal** the top of your well casing.

*The RPS Turnkey Kit comes in 100' and 200' lengths and includes the above items to speed up your install - you just provide the well!*

[RPSsolarpumps.com/turnkey](https://RPSsolarpumps.com/turnkey)