

Lorentz Solar System Set up (For Customers)

Easy Installation Guide for Your Lorentz Pump System

Welcome to Cap Solar! Your Lorentz pump system (S1-200, PS2-150, PS2-200, PS2-600, or PS2-1800) is ready to go with pre-sized components: the pump, prewired battery box (with charge controller inside), Lorentz pump controller, solar panels, and your chosen trough. Follow these simple steps to get water flowing fast!

What You'll Receive

- Lorentz pump and wire
- Prewired battery box (24V–72V with charge controller - Victron/Sun Saver)
 - Connections:
 - Solar pin connector
 - Twist lock plug – for power cable
- Lorentz pump controller box
 - Connections:
 - Lorentz Wire (Black, Red, Yellow, Green) coming out
 - Power cable
 - Float switch pin connector plug OR Liquid Pressure System (LPS)
 - Ground wire
 - Mount this somewhere on trough/frame (protected from cattle)
- Solar panels (pre-sized for your pump)
- Trough (4x8 stationary, 4x8 Wheels and hitch, Capsule, or DU-AL)
- Float switch (6 ft or 20 ft)
- Well seal with fittings and hose clamps

Tools You'll Need

- Hex driver or
 - Ratchet
 - 9/16" wrench and socket
 - Hose (if needed for trough connection)
 - Drill and 1/8" drill bit (drill hole for Check Valve)
 - Only for winter systems – drill below frost line
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Installation Steps

Step 1: Unpack and Check Your Kit

- Lay out all components: pump, battery box, Lorentz pump controller, solar panels, trough, and float switch.
- Ensure nothing's damaged from shipping.

Step 2: Set Up Your Solar Panels

- Place the panels in a sunny, unshaded spot, facing south.
- Take the panel(s) with the provided Hub and slide the U-bolt over a 3" pole and rest on the lip of the Hub of the mount
- On the bottom of the panel, the arm and swivel swing out and lean against the pole below the Hub. Take two 64' hose clamps and tighten them down over the top and bottom of swivel with a hex driver.
- Tighten the U-bolt on the Hub with 9/16" ratchet, socket and wrench
- Locate the solar wiring harness (attached to the panels) with the pin connector. You'll plug this into the battery box later.

Step 3: Install the Pump and Lorentz Controller

- **Pump Placement:**
 - **Submersible:**
 - Heat hose and slide over fittings for the well seal, tight down hose with two hose clamps leading down into the well, and one hose clamp on the outlet
 - Lower the pump into your well or water source as it hangs from the hose and the wire. (Tip: Lower pump with two people. as you lower have one person tape the hose and wire together every few meters or so. (Safety rope optional)
 - **Floating:**
 - Heat hose and slide over fittings for the well seal, tight down hose with two hose clamps leading down into the well, and one hose clamp on the outlet
 - To position the floating pump in the water source (lake, river, etc.), use poly rope (not supplied) and attach to holes in the float.
 - Stake rope to opposite banks of water source allowing the pump to float in an adequate depth of water
- **Connect Pump to Lorentz Controller:**
 - There are 4 coloured Lorentz wire's coming out of the Lorentz pump controller. They will be attached to the pumps wire with four marrette's.

Step 4: Set Up Your Trough and Float Switch

- **Trough Placement:**
 - For any trough, ensure the exposed hose, well are insulated in winter to avoid freezing lines (if you have a Capsule the well or wet well will be insulated already)
 - **Simple Trough:** Position it near the pump and connect the pump outlet with a hose
 - **Capsule Trough:** Place it where needed and attach the pump outlet to the inlet.

- **DU-AL Trough:** Set it up and connect the pump to the designated inlet.
- **Float Switch:**
 - Generally, not applicable if you have a Liquid Pressure System
 - Install it inside the trough:
 - Capsule: on the inside of the capsule there will be an aluminum bracket with pre-drilled holes for custom water level setting.
 - Plug the float switch cable into the labeled port on the Lorentz pump controller box (or the battery box if specified on your kit). This stops the pump when the trough is full.
- **Liquid Pressure System:**
 - Generally, not applicable if you have a float switch
 - The sensor should be installed on a T-fitting in the water line, typically before any shut-off valve or check valve to avoid pressure buildup.
 - Ensure it is above the well seal but before any pressurized storage tank or outlet.
 - Ideally your battery box/enclosure with the pump controller is within 20-50 feet to the well head/LPS so there is enough wiring.
 - Check to see if everything is securely fastened with hose clamps

Step 5: Test Your System

- Double-check all connections: solar pin connector to battery box, pump to Lorentz controller, float switch to controller/box.
 - Once sunlight hits the panels, the system should start automatically. Watch for water flowing to your trough!
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Quick Tips

- **No Power?** Ensure the solar pin connector is fully plugged in and panels are in sunlight.
- **Trough Not Filling?** Check the pump and float switch connections.
- **Need Help?** Reach out to Cap Solar support—we've got you covered!

That's it! Your Lorentz pump system is now pumping water with solar power. Enjoy your Cap Solar setup!