

# How to Install the High Lifter Water Pump

This “Gravity Pump” can be set up easily with a few simple tools and procedures.



1. Consult the Output Chart to determine how much Fall you will need to produce the Net Lift you need to pump to your tank. The Fall is how far below the water source the High Lifter needs to be. The Net Lift is how high above the water source your tank is. The source pipe needs to be set up so it gravity feeds to the High Lifter. It cannot suck water out of a stream or pond. See the Layout Diagram below.
2. Make a guess about where the best pump location might be that will give you the Fall you need. Lay out a temporary pipe from the water source to the pump location, install a pressure gauge on the end, and measure the water pressure. Multiply the pressure by 2.3 to get the Fall in feet. Example: If the gauge reads 33 lbs, you multiply by 2.3 to get 76 feet of Fall, You may have to adjust the pump location up or down the hill until the pressure reading on the pipe gives you the Fall you need as shown in the Output Chart. It's Ok to give the pump more input pressure than needed, as long as you don't exceed 60 lbs. The only problem with that is that the pump will run faster than it needs to, possibly pumping more water than you need. You can also prolong the life of the pump by not running it faster than you need.
3. In cold winter zones, to prevent freeze damage, plan on taking the pump out of service in the winter, or mount it in an insulated box, or even install it in a hole. As long as you can keep water running through the pump, you are ok.
4. Consider installing a Settling Tank at your water source to remove sand that can wear out the High Lifter prematurely. See Page 4 for more details.
5. For the permanent input pipe, a 3/4" pipe will generally be satisfactory, unless the run is more than 500 feet, or the input pressure is less than 20 lbs, in which case go with 1 inch. You can use black polyethylene pipe for this, the kind that comes in rolls. You will probably want to install a Ball Valve at the lower end. Use four clamps per connector to stop leaks and prevent the pipe from popping out of the fitting. Fill your source line and let the water run freely to purge air bubbles out of the line. Air trapped in the line can seriously reduce water pressure. Then shut off the water and check pressure with a gauge. You can use a gauge you buy at the hardware store, or you can use the gauge on the inlet filter if you put a hose cap on the other end of it.



3/4" black poly pipe



Double pickle barrel settling tank



Valve, fittings, clamps, tool, tape



Use four clamps on connectors



Reading 33 lbs on the gauge



Cutting tool for pvc pipe

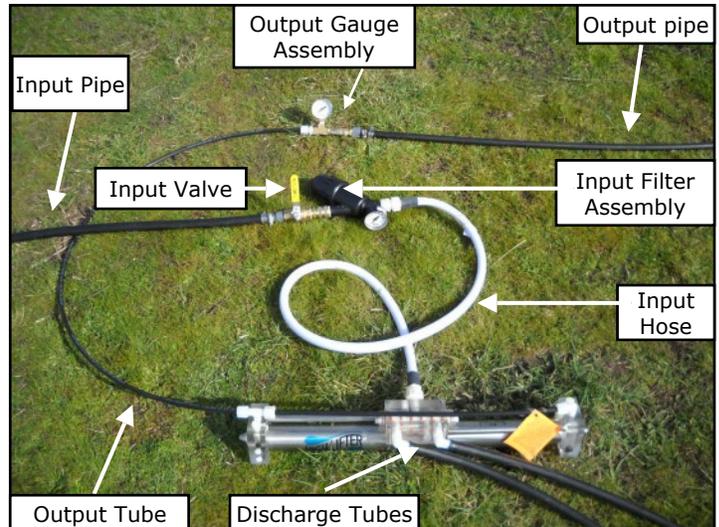
6. For the output pipe, a 1/2" pipe is standard for the pipe. You can use bigger diameter pipe if you like. Black poly works ok if the Total Lift (elevation difference between High Lifter and upper tank) is less than 230 feet. If it's more than 230 feet, PVC "schedule 40 pipe is better able to resist high pressures. you should probably use PVC "schedule 80" pipe. Or use PVC for the lower part of the run and the less expensive black poly for the upper part.



7. Connect the pump with the input and output pipes as per the image below. New models come with pre-installed Hydraulic Hoses instead of plastic Output Tubes.



Pump comes with Input Hose, Output Tube or Hydraulic Hose, Gauge Assembly, Filter Assembly, and Manual



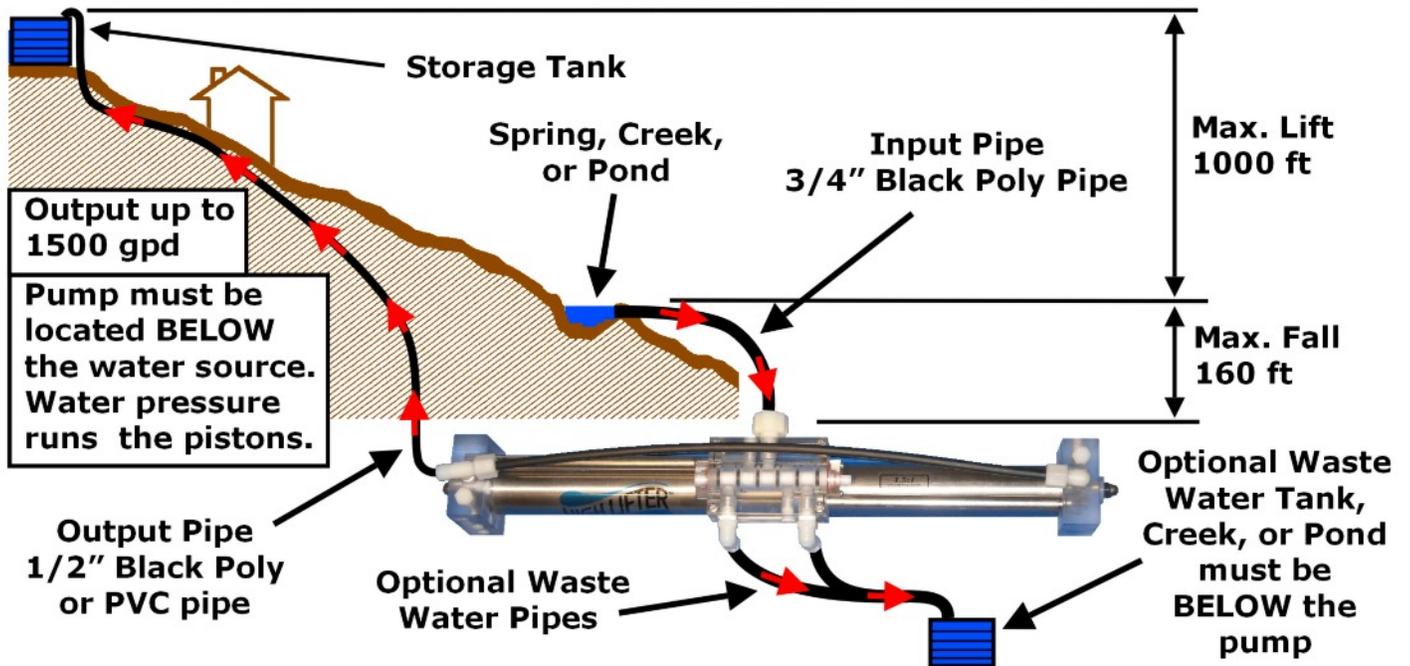
Got that water pressure! 33 lbs on the inlet side converts to 190 lbs on the outlet side of this 9:1 ratio High Lifter. That means 430 feet of lift. A successful installation!



Would 600 gallons per day do the job?



# How to Install the High Lifter Water Pump



Typical application. Note the High Lifter needs to gravity feed from the water source but will pump water to a point well above the water source.



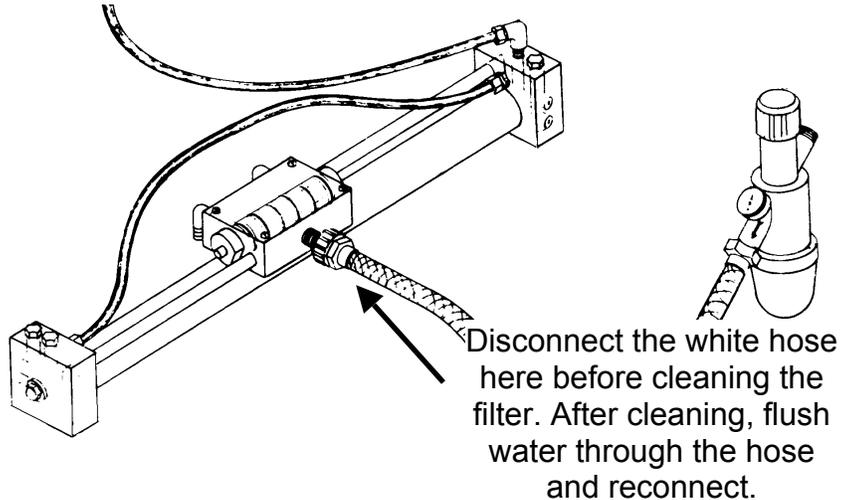
Your water can come from a spring, creek, or pond. Definitely use a settling tank for creek water.



1. Top: 5/16" socket on 1/4" drive socket wrench. Use this to get the hose clamps really tight. Be sure to use some WD40 on the threads of the clamps to prevent galling of the threads. Go over all the clamps the next day and re-tighten as needed.
2. Keep all poly pipe connections out of the sun's heat. Cover with weeds, cardboard, etc. Poly pipe itself can be exposed to the sun, but PVC should be buried for best life.
3. Cutting tool for black poly pipe.

## How to Clean the Filter the Right Way

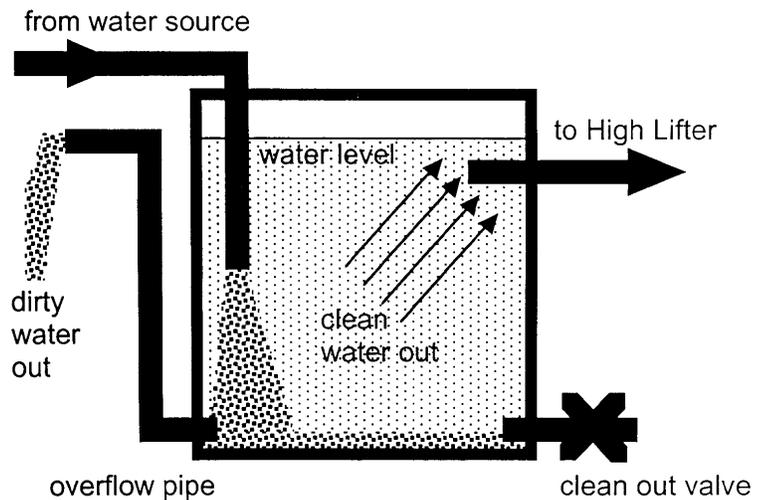
1. Turn off the water supply to the High Lifter.
2. Disconnect the white Inlet Hose from the High Lifter.
3. Remove the Filter Cartridge from the Filter Assembly.
4. Clean the Filter Cartridge by swishing it around in a bucket of water or using a hose to squirt water through the discs. If there is algae in the water, you may occasionally need to take the Filter Cartridge apart and clean the individual discs using a toothbrush.
5. Put the cleaned Filter Cartridge back in the filter body.
6. **IMPORTANT:** After you have put the filter back into the filter housing, turn on the water and flush water through the Filter Housing and out the hose onto the ground. This removes any remaining dirt in the filter housing. **IF YOU DON'T DO THIS, THE NEXT TIME YOU RUN THE PUMP, DIRT GETS FLUSHED RIGHT INTO THE PUMP, CAUSING PREMATURE WEAR.**
7. Turn off the water.
8. Put the Inlet Hose back on the High Lifter.
9. The High Lifter is ready to use. This filter flushing procedure flushes any particles out of the filter



## Why You Should Install a Settling Tank for Your High Lifter

A settling tank can help cut down on repair costs due to sand getting in the pump. This is particularly important if you are drawing water from a creek. Even if the creek water looks clear, it will generally have a lot of small abrasive particles in it. The principles of a successful settling tank are:

1. The tank is located just below the water source. This preserves maximum pressure to the pump.
2. If the water is flowing too fast through the tank, the water will remain agitated and the sand will not settle out. Restrict the flow into the tank, to only a little more water than the High Lifter uses.
3. The tank must not be too small. If the tank is too small, the water will remain agitated and the sand will not settle out. The larger the tank, the better the settling action.
4. Water coming into the tank should enter the tank about a foot or two below the water surface.
5. Water going out of the tank should come from near the water surface.



A 300 gallon tank works great, but even a 55 gallon drum is better than nothing. Sand getting into the pump can wear it out in a year.