

BISON COMMERCIAL DEEP WELL HAND PUMP INSTALLATION INSTRUCTIONS



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WARNING: All pumps are shipped with a stainless steel male pipe thread hose adapter. You may want to check local codes to see if a hose Bibb backflow preventer should be used when connecting a hose to the hose adapter on the pump. CONSULT YOUR LOCAL PLUMBING CODE!!

Inspect the contents of the box to be sure everything you ordered has been received. Be sure to check the serial number on the pump head assembly to verify it matches the serial number on your invoice/packing list.

Before installing any pipe, rod and cylinder, please refer to the tamper-proof kit installation instructions.

Read All Instructions Before the Actual Pump Installation

DO'S & DON'TS FOR PUMP INSTALLATION

- **DO NOT** begin the installation without first reading the entire instruction booklet, studying and understanding the diagrams.
- **DO NOT** attempt the installation by yourself.
- **DO NOT** begin the installation of the pump without first checking the water level in your well to be sure you have enough pipe and rod to install the pump cylinder at least 20' below the static water level.
- **DO NOT** over tighten the 1 ¼" pvc piping into the pvc female pipe thread bell end of the sch. 120 plastic pipes. The pipe can be threaded with a pair of pliers or a 12" pipe wrench.
- **DO NOT** use large pipe wrenches for the assembly of the pvc piping.
- **DO NOT** install the pump during a thunder and lightning storm. Be aware of any overhead power lines.
- **DO NOT** hurry the installation of your pump. Think before you act.
- **DO NOT** screw multiple lengths of pipe and rod together, laid out on the ground, and then try to lift all the pipe and rod to a vertical position to lower it into the well.
- **DO NOT** lower the pump and pipe sections into the well by the safety rope. Grab the pipe securely with both hands and lower the pipe, cylinder and safety rope into the well 8' at a time, using the paddle as a stop. The safety rope should be tied off to a secure object, i.e. the well casing so that it can be lowered slowly and safely.

If you are going down more than 14 lengths of pipe and rod, mechanical means of lowering them into the well is recommended along with the Bison lifting tool. Gloves are recommended when handling rope.



- **DO** read the installation instructions and study all diagrams. Begin the installation when you are confident you understand the instructions completely.
- **DO** have another person help you with the installation. If you are not comfortable with the mechanics of the installation, we suggest you hire the services of a licensed plumber,

pump installer or well driller.

- **DO** install the 8' sections of pipe and rod one at a time until the entire pipe and rod is installed.
- **DO** make sure one end of the safety rope is securely tied to the cylinder and the other end to a secure object such as the well casing.
- **DO** use the paddle provided to aid in the installation of your pump.
- **DO** thread the ends of the rods together so they butt up against each other then tighten the lock nuts with ½" & 9/16" open end wrenches.
- **DO** use Teflon tape on any male pipe threads which are not already taped before you screw them together.

Note: Bison Pumps and any of its affiliates will not be held responsible for defects or damage to this product due to inexperienced or negligent workmanship during installation of the pump and associated parts.

INSTALLATION INSTRUCTIONS

(Bison Pumps recommend two people are involved for ease of installation.)

NOTE: Before installing the pump, if you have Stainless Steel Pipe a mechanical means of lifting is recommended. Examples of lifting devices would be a tripod with the aid of a chain fall or come-along or a tractor or front end loader to raise the pipe and hold it in suspension while you prepare for final connection.

REQUIRED TOOLS: 7/16", 1/2", 9/16" open end wrenches, pliers, vise-grips, allen wrench. A pipe wrench is needed for the union installation, but **NOT** for connecting pvc pipes together)

STEP #1 - Make sure you have read and understand the installation instructions.

STEP #2 – Remove the existing well cover or well seal and set it aside.

STEP #3 - Remove the Bison Pump Cylinder from the box. Remove the red plastic plug from the pump cylinder and discard. Thread the Rod Retrieval Tool onto Piston Lift Rod. Pull up on the t-handle, and down a few times to loosen the seal. As you pump the piston, you will hear the check valves "burp". This indicates that the check valves are functioning properly.

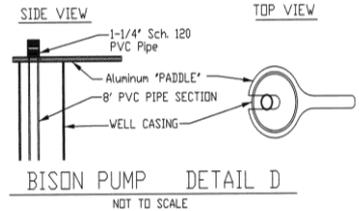
STEP #4 - Start the assembly of your Bison Commercial Pump. If you have purchased a complete kit, you will notice the safety rope has been securely tied to the pump cylinder when you received your pump. If you purchased stainless steel pipe, there will be a stainless steel cable and cable clamps in the kit. Loop one end of the cable thru the tab on the pipe and secure with one of the cable clamps. Tie the other end of the rope or stainless cable to a secure object, i.e. the well casing, temporarily. The safety rope or cable will be tied or attached to the 1/4" eye bolt on the underside of the well adapter in step #13. (See Detail "A").

STEP #5 - Assemble your first piece of 3/8" stainless steel rod to the rod protruding from the cylinder. Pull the rod in the Bison pump cylinder all the way to the top to connect the first rod. As you assemble the stainless steel rod couplings and rod, screw the rod into the coupling until it butts up against the rod in the coupling. Use pliers to lock the rods together. Be sure to tighten the 3/8" stainless steel lock nuts on both sides of the rod coupling. When you receive your rod, one of the lock nuts will already be tightened

securely. You will notice that as you assemble the rod and piping in the well, the weight of the rod may push the piston in the pump cylinder down so the rod lowers inside the 1 1/4" PVC pipe to a point where you can't reach it to connect the next rod coupling.

We recommend as you connect each rod, thread on the rod retrieval tool in order to pull the rod up as far as you can and connect a pair of vice grips to hold the rod in place while you secure the coupling and tighten the lock nuts. This can be done each time, if necessary.

Use the slotted aluminum paddle you received with your pump to slide under the 1 1/4" PVC bell end of the pipe and rest the paddle on top of the well casing. This will hold the pump in place while you assemble the rod and pipe.



STEP #6 - Lower the cylinder and the first 8' section of piping into the well and continue to connect the 3/8" rod sections and 1 1/4" PVC or Stainless pipe until you have lowered all of the pipes into the well. "Notice" one rod will have a disconnect end on it, which is to be installed in the last pipe at the top of the well (this will be clearly marked with a blue tag). If freezing is an issue, see #1 additional tips on page 4.

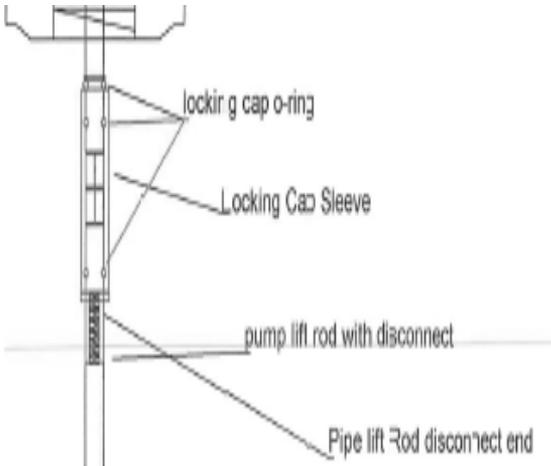
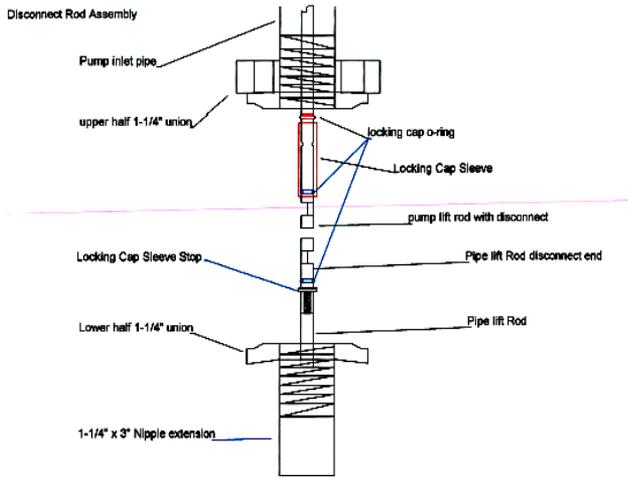


STEP #7 – Screw the 1 1/4" x 3" nipple with the half of the 1 1/4" union attached to it into the 1 1/4" female pipe thread of the last 8' section of pipe protruding from the casing. Use Teflon tape or pipe dope compound on all pipe threads.

STEP #8 – With the Bison Pump Head supported above the casing, raise the handle stub all the way up to expose the upper half of the quick disconnect rod, the lower part of the rod will appear below the top part of the 1 1/4" union half at the base of the pump head inlet pipe.

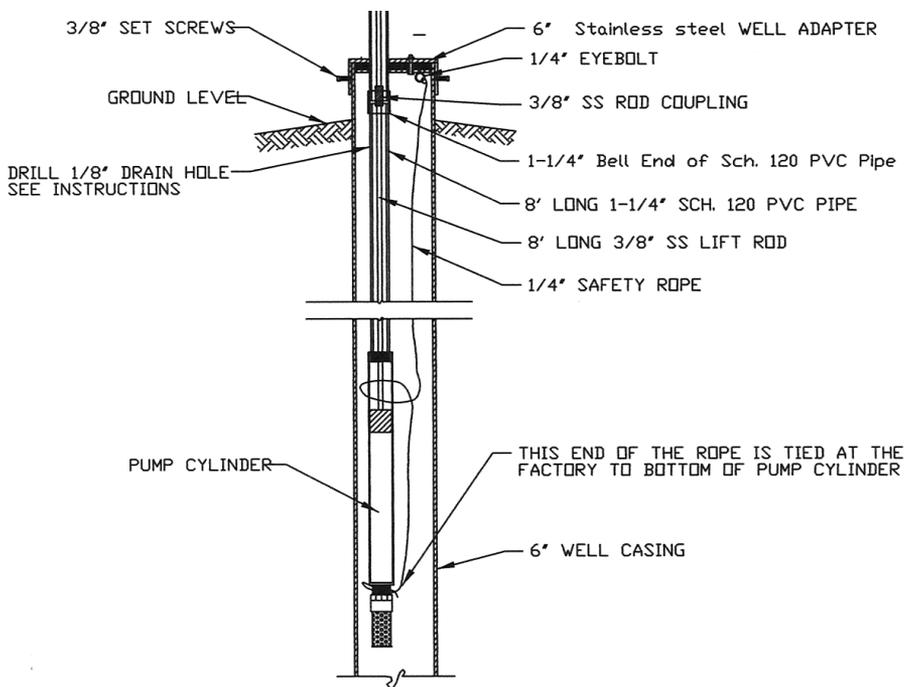
STEP #9 – Using the rod retrieval tool that mates to the disconnect lift rod end in the pipe, pull the rod up exposing the rod end. Secure the rod in the pipe with vise grips.





STEP #10 – Once you have the two rod quick disconnect ends attached, slide the stainless tube over the rod quick disconnects until it comes to a stop. Now, slide or roll the upper o-ring down into the top groove securing the sliding sleeve.

STEP #11 – Now lower the pump head to align the two 1 ¼ union halves together and tighten the union half nut securely.



BISON PUMP DETAIL A

NOT TO SCALE

STEP #12 - Tie the end of the safety rope or cable to the 1/4" eye bolt on the underside of the well adapter (See Detail "A").

STEP #13 – Carefully raise the pump head and remove the aluminum paddle from under the bell of the 1 1/4" Sch. 120 pipe protruding from the top of the well casing. Set paddle aside and store for future use.

STEP #14 – Lower the pump head onto the casing until it seats securely to the top of the casing. See Tamper Proof Installation Instructions to perform the installation of the tamper-proof kit (BPN-VPK). Tighten the four nuts on the top of the well adapter to secure the well adapter to the casing. Tighten the nuts by alternating diagonally from one nut to the next until secure.

STEP #15 – Insert the 8) 3/8" x 1 1/4" hex head lock bolts into the side of the well and tighten securely with an allen wrench.

STEP #16 – Insert the handle onto the handle stub and align the 3/8"x 2" bolts into mounting holes and tighten using the 2) 3/8" ny-lock nuts provided. Cut the black plastic bumpers which are provided to fit over the hex head bolts.

STEP #17 – **Note!** Because of the amount of pipe that could be added to this pump, it might have to be adjusted for weight! Remove the cover that conceals the linkage by removing the 2) 3/8" Acorn Nuts on the top. Remove the 8) 1/4" x 1/2" side bolts. Remove only the large top cover. If the pump's handle seems to be tight in movement, then the

stainless turnbuckle atop the pump needs to be adjusted. By standing to the side of the pump looking at the 2) upright 1/2" rod guides, if they are bending forward then adjust the turnbuckle backwards a little at a time so the handle slide guides are not binding with the pumping of the handle. In order to adjust it, the 2) larger nuts need to be backed off from the center rotating sleeve, then set and tighten the nuts again and retry the handle for movement. If more info is needed, call our technical department for help 1-800-339-2601.

Now you can pump the handle of the Bison Deep Well Commercial Hand Pump and enjoy volumes of clean water from your well. Thank you for investing in a Bison Hand Pump.

If you are currently treating the water in your home, remember that the water you pump directly from your well is untreated water. Bison Pumps recommends that you have your water tested to be sure that it is good quality potable drinking water.

Additional Installation Tips:

1. If you live in an area that experiences freezing temperatures, be sure to drill an 1/8" hole in the last piece of 1 1/4" PVC or stainless pipe to be installed, approximately 6' to 7' below the well adapter. If you experience freezing temperatures that could have a frost penetration deeper than 7', drill the hole lower on the 1 1/4" PVC or Stainless pipe. (See Detail "A")
2. If you experience any deficiencies or malfunction of your Bison Commercial Deep Well Hand Pump, please call 1-800-339-2601 for assistance and answers to your specific questions or concerns.
3. Be sure to check local plumbing codes in your area to be sure your installation meets all code requirements.
4. You will also notice that a brass hose bibb cap is shipped with the hose bibb adapter. This cap can be tightened to the hose bibb to keep insects out when the pump is not in use. **Caution: In the winter months, be sure to let the pump drain back completely before securing the brass cap. You may not want to use the cap during the winter.**

Thank you for investing in a Bison Deep Well Commercial Hand Pump.

