



BISON PUMPS
PO BOX 977
HOULTON, ME 04730
INFO@BISONPUMPS.COM
WWW.BISONPUMPS.COM
1-800-339-2601

BISON DEEP WELL HAND PUMP INSTALLATION INSTRUCTIONS

WARNING: All pumps are shipped with a stainless steel male pipe thread hose adaptor. 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 adaptor 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.

Read All Instructions Before Beginning 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** 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 1/4" pvc piping into the pvc female pipe thread bell end of the sch. 120 plastic pipe. 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. This applies for pipe and rod removal as well; **8' at a time**.

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** 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** turn the electricity off to the electric submersible pump before beginning the installation if you are installing the hand pump in the same well as the electric submersible.
- **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 be involved for ease of installation.)

REQUIRED TOOLS: ½” and 9/16” open end wrenches, pliers, vice grips

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

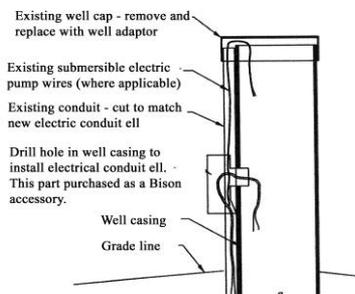
STEP #2 - If you are installing the pump in a well casing specifically dedicated to a hand pump, go to **STEP #6**.

STEP #3 - If you are installing your Bison Deep Well Hand Pump in the same casing as an electric submersible pump or piping which connects to a jet pump, proceed as follows:

STEP #4 - Remove the existing well cover or well seal, whichever you may have and set it aside. **If you have a submersible pump, be sure to shut the electricity off to the pump before beginning the installation of the Bison Hand Pump**



If you are installing in the same casing as an electric submersible pump, in most cases the electrical wires exit the top of the casing then run back down to the ground with a piece of conduit. Using a bi-metal hole saw, drill a hole through the side of the well casing 3-4” below the top of the casing then install the electrical conduit ell (pictured – offered as an accessory by Bison Pumps).



This will allow you to pass the wire from outside the casing through the conduit ell to the inside of the casing where you can re-connect the wires to the submersible pump.



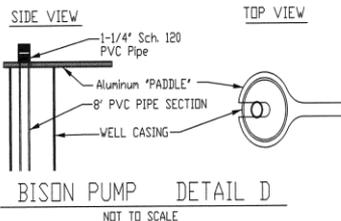
STEP #5 - You may need to lift your submersible pump or deep well jet assembly and foot valve in order to pass the Bison Pump Cylinder by the Pitless adaptor (pictured) in your well casing. To avoid this step, you may want to select a smaller Bison Pump cylinder.

STEP #6 - Remove the Bison Pump Cylinder from the box. Remove the red plastic plug from the pump cylinder and discard.

STEP #7 - Start the assembly of your Bison 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. Tie the other end of the rope to a secure object, i.e. the well casing, temporarily. The safety rope will be tied to the 1/4" eye bolt on the bottom of the well adaptor in step #13. (See Detail "A").

STEP #8 – *Note: when you receive your rod, one of the lock nuts will already be tightened securely.* 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, screw the rod into the coupling until the two rod ends butt up against each other. Use pliers to lock the rods together. Be sure to tighten the 3/8" stainless steel jam nuts on both sides of the rod coupling. We recommend as you connect each rod thereafter, thread on the Rod Retrieval Tool to pull 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 should be done each time. *You will notice 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.*

STEP #9 - Screw the PVC male end of the first 8' section of pipe into the female thread in the head of the pump cylinder. Use Teflon tape or pipe dope compound on all pipe threads.



STEP #10 - Lower the cylinder and the first 8' section of piping into the well. Using the slotted aluminum paddle you received with your pump, slide it under the PVC bell end of the pipe and rest the paddle on top of the well casing. This will hold the pipe in place while you assemble the rod and pipe. Continue to connect the 3/8" rod sections and PVC pipe until you have lowered all of

the pipe into the well.



STEP #11 – Remove the two bolts and the pump head exposing the lift rod and quick disconnect adapter and sleeve. Set off to the side. Install the well adapter onto the last piece of 1 ¼” pvc.

STEP #12 – Tie the end of the safety rope to the 1/4" eye bolt on the underside of the well adaptor. Set the well adapter onto the casing, squarely and straight; then evenly tighten the (4) stainless steel nuts on top of the well adaptor. Tighten the (4) allen head set screws on the well adaptor to secure it to the casing. Check to make sure the pump head is square and straight on the well casing; making sure all the bolts are tight. Place the (4) rubber boots on the allen head set screws of the well adaptor.



STEP #13 – Attach the rod retrieval tool to the last section of rod and pull all the way up. Attach vice grips to hold the rod up from the pipe.

You will see a quick disconnect adapter on one of the pieces of pipe and rod which is clearly tagged with a blue tag. This will be the last piece of pipe and rod installed prior to connecting to your hand pump. There is a matching quick disconnect adapter in the envelope. It will be used with the rod retrieval tool to lift the rod up through the well adapter to be held with vice grips.



STEP #14 – Thread the extra quick disconnect rod adapter onto the rod retrieval tool. Use this to connect to the adapter on the last piece of pipe and rod. Lift up through the well adapter and hold with vice grips.



STEP #15 - One person can steady the pump head while the second person can loosen the set screw on the quick disconnect sleeve using the 1/8" Allen Head Looped Wrench that is provided in the kit. Now slide the sleeve down over the two adapters until it stops. Retighten the set screw. Now lower the entire pump head into the well adapter quick disconnect sleeve engaging the o-rings. Line up the

two tabs and reinstall the two bolts.

STEP #16 - Reconnect the pump handle onto the pump head by attaching the 3/8" Allen head shoulder bolt. Ensure the set screw in the eyelet at the top of the handle is facing back towards the handle. **Do not over tighten the shoulder bolt as this will cause the pump handle to pump hard.**

STEP #17 - Pump the handle on your Bison Deep Well Hand Pump and enjoy a cold glass of water directly from your well.

NOTE: When you remove your deep well hand pump, we have provided a safety cap which can be bolted or locked using the tabs on your well adapter. We have also provided a plastic sleeve to cover your o-rings when storing pump head.

To remove pump head for storage: reverse install steps 16-11.

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 1 1/4" PVC pipe approximately 6' to 7' below the well adaptor. If you experience freezing temperatures that could have a frost penetration deeper than 7', drill the hole lower on the 1 1/4" PVC pipe.
2. On the top of the pump body is a gland nut which the lift rod slides through when pumping your hand pump. *This nut should be hand tight.* If there is leaking through this nut when pressurizing a vessel, then tighten this gland nut a quarter turn. **Do not overtighten** as this may cause difficulty in pumping your hand pump or damage to your lift rod.
3. If you experience any deficiencies or malfunction of your Bison Deep Well Hand Pump, please call 1-800-339-2601 for assistance and answers to your specific questions or concerns.

4. **Be sure to check local plumbing codes in your area to be verify that your installation meets all code requirements.**
5. You will notice a handle locking loop is attached to your pump handle along with a stainless steel chain and hook. If you choose, you can use either a paddle lock or a cable lock to secure the handle to the pump when not in use. Locking the handle is totally optional.
6. You will also notice that a brass hose bibb cap is shipped with the hose bibb adaptor. 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.**
7. Thank you for investing in a Bison Deep Well Hand Pump.