



1 1/4" WELL POINT INSTALLATION INSTRUCTIONS

This brochure is designed to provide step-by-step instructional assistance to the individual who wishes to install a shallow water well system for residential sprinkler or irrigation. The procedure consists primarily of “washing” a smooth PVC casing into the water bearing sand layer, facilitating the insertion of a well point, through which water can be drawn from this layer. This procedure eliminates the need for professional well drilling equipment.

Note: This installation is for shallow water only and not recommended for systems intended for human consumption.

Shallow wells are different in various location. Different sand formations produce or transmit water at various rates. While some installations may obtain 10-15 Gallons Per Minute (GPM) from one well, others may require two or more, wells to obtain the desired GPM.

Plan to install one 4 foot well point per 1/4 H.P. of pump capacity.

For best results plan and lay out the entire system prior to beginning the actual installation. Select a location which is as close as possible to the pump location to avoid long suction lines. Be sure to allow adequate area for multiple wells (if required).

Multiple well points should be kept 5-8 feet apart. Use care in selecting an area free of overhead obstructions and buried wires.

**1. The following materials should be on hand before starting your project.
(See Photo #1)**

- **(1) DIY Install Kit; parts needed to make:**



- **(2) 3/4" PVC Street Elbows (FPTxMPT)**
- **(2) 3/4" PVC Swivel Garden Hose Adapter (MPTxFGHT)**
- **(1) 3/4" PVC Threaded Tee (FPT)**
- **(1) 3/4" 2" PVC Sch 80 Pipe Nipple**
- **(1) PVC Reducing Bushing (2" Spigot x 3/4" FPT)**
- **(4-6) 2" inside flush couplings: Part #WSFC200**
- **(4-6) 1 1/4" inside flush couplings: Part #WSFC125**
- **(1) 2" PVC outside slip coupling**
- **(4-6) 3/4" PVC slip x female threaded coupler**
- **(4-6) 3/4" PVC slip x male threaded coupler**
- **(20'-30') 2" SCH 40 pipe (PVC)**
- **(20'-30') 3/4" SCH 40 pipe (PVC)**
- **(20'-30') 1 1/4" SCH 40 pipe (PVC)**
- **(1-6) 1 1/4" x 4' well points: Part #WSWP125-4-PL**
- **All purpose PVC solvent cement**
- **PVC primer**
- **Pipe wrench large enough for 2" pipe**
- **Hacksaw**
- **Tape measure**
- **String with weight (at least 30' long)**
- **Garden hoses**

2. Start by serrating one end of a length of 2" pipe (casing) using the hacksaw (see Photo #2). Glue the 2" DIY Install Kit to one end of the 2" outside coupling. Push the other end of the coupling onto the casing at the end opposite the serrations. Use sufficient force to tightly lock coupling onto casing without glue (see Photo #1). Connect two garden hoses to the adapters on the DIY Install Kit.

Note: One hose can be used, if two lines are not available, however, we recommend using two for greater flow.

3. Using a pointed shovel or spade, remove a small (12" dia.) section of turf in the location of the first well. Turn on water flow and elevate the 2" casing to a vertical position. Using a back and forth rotating motion and slight downward pressure, begin to wash the casing into ground. The water should wash sand, gravel and debris up to ground level along the outside of the casing. Do not rush or force the casing down. As necessary, add lengths of 2" casing, using only inside flush couplings and move the DIY Install Kit to top of each section.

4. During this procedure, changes will be observed in the color and texture of the material being washed-up around the outside of the 2" casing. This occurs as various ground formations are passed through. As the water bearing layer is entered, this flow will often diminish or stop entirely. This is due to some or all of the water being absorbed by the well. If at this point, the 2" casing cannot be moved further into the well, because of diminished digging action, it will be necessary to remove the 2" bushing from the DIY Install Kit and continue by threading on a 3/4" PVC FPT x Slip coupler and pushing onto 3/4" PVC pipe. You will then push the 3/4" PVC pipe inside the 2" casing.

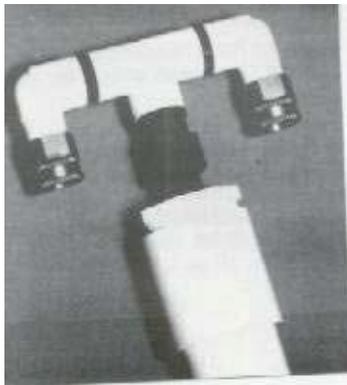


Photo #1



Photo #2

5. We recommend before going any further you use a string and weight to determine your static water level. With the weight attached to the string, drop the weight down inside the casing. A splash will be heard when the weight reaches the water level. Then, mark the string at the top of the casing, remove it from the well and measure the length from the weight to the mark on the string. This length will give you the static water level. (Static water level is the distance from ground level to the water level in your well). This water level should remain constant now as you go deeper.

Note: This water level is also important in sizing your pump.

6. The object is now to flush the sand and water up through the 2" casing. Starting with a piece of 3/4" pipe, serrate one end as you did on the 2" casing and glue a 3/4" female adapter to the other end. Attach male and female adapters to additional pipe as needed to reach the bottom of 2" pipe. Unscrew the 2" reducer bushing from the DIY Install Kit, exposing the 3/4" male threaded nipple. Thread this nipple to the female adapter on the 3/4" pipe. Having lowered the 3/4" pipe inside the 2" casing, attach water supply to the 3/4" pipe, turn on the water. Water and sand will now flow up the inside of the 2" casing. You will need to turn the 2" casing with a pipe wrench and push down causing the serrated end to auger the sand. As the water and sand pass upward through the 2" casing, the pipe will pipe continue to move downward.

NOTE: Allowing the 3/4" pipe to extend farther than the 6" past the 2" casing may cause water and sand to stop washing up inside the casing. When this happens, you will need to pull back the 3/4" pipe a few inches and force the 2" casing down further.

7. You will continue to auger the 2" casing down, adding an additional 5' section using the 2" flush inside couplings. Continue washing out the center. This step may need to be repeated to attain "Adequate Depth." "Adequate Depth" is enough standing water inside the 2" casing to cover the full length of the screen plus an additional 18 to 24 inches. Example: if using a 4' well point, you need 48 inches of water plus an additional 18 to 24 inches extra for a total depth of 66 to 72 inches of standing water. This standing water level can be measured by removing 3/4" pipe and again using the string with a weight. Extremely dry seasons and/or heavy usage may cause fluctuations in the water table. By continuing as far as possible past "Adequate Depth" (even as deep and 30' – 35'), it is possible

to “stack” additional points to allow a greater flow of water. This may cut down on the number of or eliminate the need for additional wells. This can be done by repeating Step #8 until you reach the desired depth or cannot continue any deeper. If it is necessary to repeat Step #8, 5’ sections of ¾” pipe will also have to be added as well as additional sections of 2” casing. If you have succeeded in obtaining an “Adequate Depth” which will allow you to “stack” additional points, you will need to remove the tip from the well screen. To do this, simply cut the tip off with the Hacksaw, 1” above where the point meets the pipe.

8. After you have the 2” pipe down to the depth where you will have a minimum of 18” of water over the well point(s). which was determined by using the string and weight, you are then ready to pull out your ¾” pipe, if it was needed, and install the plastic well point(s). Solvent cement the well point using a 1 ¼” flush inside coupling to enough 1 ¼” PVC pipe to extend a minimum of 10” above ground level when lowered inside the 2” casing.

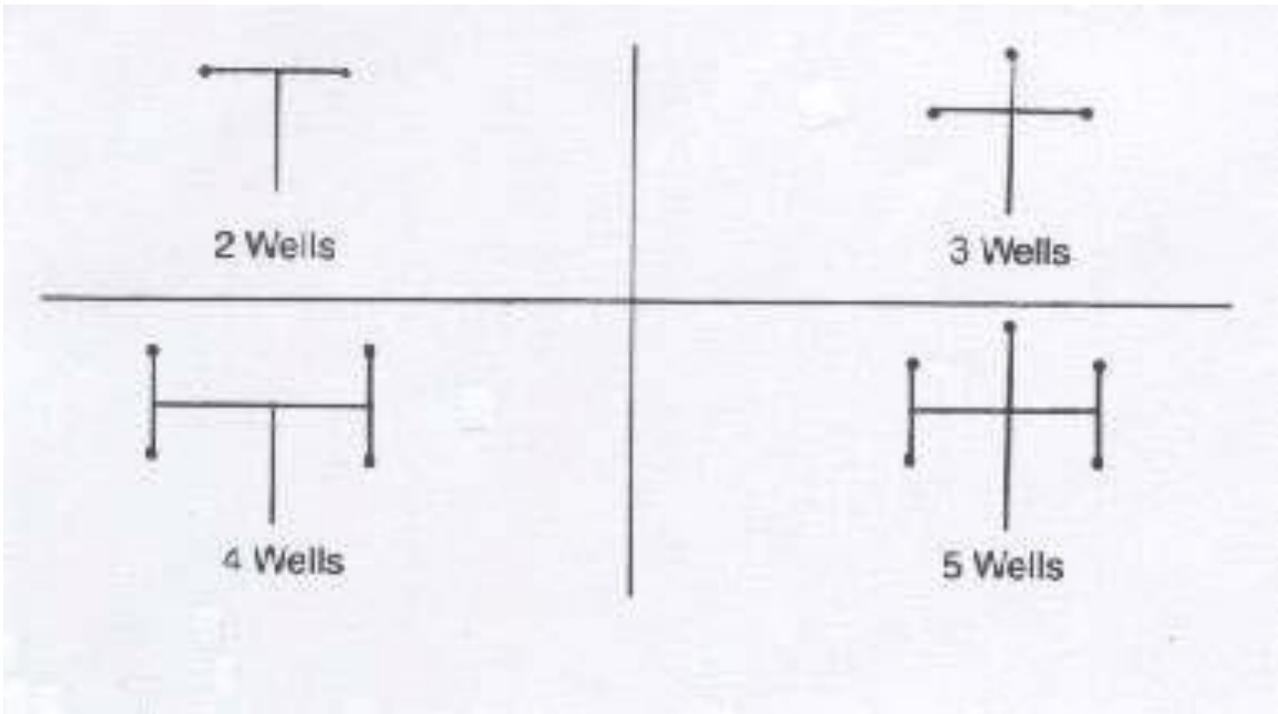
9. After the well point and 1 ¼” pipe are lowered inside the 2” casing, pull the 2” casing out of the ground, allowing the water bearing sand to collapse around the well screen and pipe.

NOTE: Make sure the well point does not come out with the 2” casing.

10. After the 2” casing is pulled, lower your garden hose inside the 1 ¼” pipe to backwash the screen. Backwash the screen for about two minutes. If your point is 18 to 24 inches below water level within the well and takes water at a rate of 2 to 6 gallons per minute, this indicates you should have a water producing well. A pump is needed to determine exact well output.

11. The water requirements of your system may require that you add an additional number of wells. If so, follow the same steps for each additional well.

We recommend in all areas that you only pump between 2 – 3 GPM per one foot of 1 ¼” well screen. Example: 4’ area x 2-3GPM = 8-12GPM capacity. Therefore, you will need to connect by a manifold system a series of well points for higher gallon requirements. Well points should be kept 5 – 8 feet apart and should be manifolded so that they receive even suction from the pump. (See Line Drawing #1)



Line Drawing #1

We also suggest using a check valve with your pump to help keep prime in the system.

If you have any questions, please call customer support at 800-346-7611, or visit our website at www.watersourceusa.com.