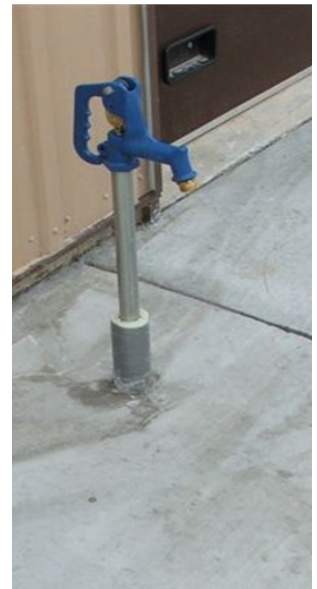


# Fitting a Frost Proof Yard Hydrant.



## What you need.

- ⇒ 7 Ft Post (4" x 4"),
- ⇒ At least 1 Cubic yard of clean stone,
- ⇒ A Plastic bucket or empty paint bucket.
- ⇒ Plastic or Geotextile material 4ft x 4ft
- ⇒ Water fitting (elbow or tee with ¾" male tapered thread on top to connect to hydrant)
- ⇒ PTFE tape
- ⇒ Cable ties or pipe clips to fix the hydrant to the post.



## Steps to Take.

1. Choose your site carefully.
2. Dig a suitable hole.
3. Part fill with clean stone.
4. Connect the Hydrant to the water supply.
5. Test Hydrant and check for leaks and adjust.
6. Add the remainder of the stone and bucket.
7. Cover stone with Plastic or Geotextile material.
8. Read the detailed instructions before you start.



## How Do I Install a Frost Proof Yard Hydrant?

Frost-proof yard hydrants are standard water fixtures for outdoor use in northern climates where freezing temperatures are common. Frost-proof hydrants operate with a control lever and hose connector tap above ground, while the operating valve is below ground at a depth where freezing conditions do not occur. Each time the hydrant is shut off, the water in the upright portion of the pipe drains out of holes in the base of the pipe, leaving no water in any portion of the hydrant subject to freezing conditions. Most do-it-yourselfers can install a frost-proof hydrant, although the project involves excavation to a level below the frost line.

### Instructions

**Chose your site.** Hydrants should be located where they will not be subject to damage by livestock or machinery and should be convenient for filling watering troughs for animals. A free draining area is best and a south facing aspect is ideal as it will get some heat from the sun.

**Dig hole for the frost-proof hydrant.** The hole must be at least 4ft deep and wide enough to work in. It must be about 1ft below the frost line for your area. The frost line is defined as the depth in the ground which reaches freezing temperatures during the winter months, and varies from area to area. (British Isles- Max 2- 3ft) Check locally

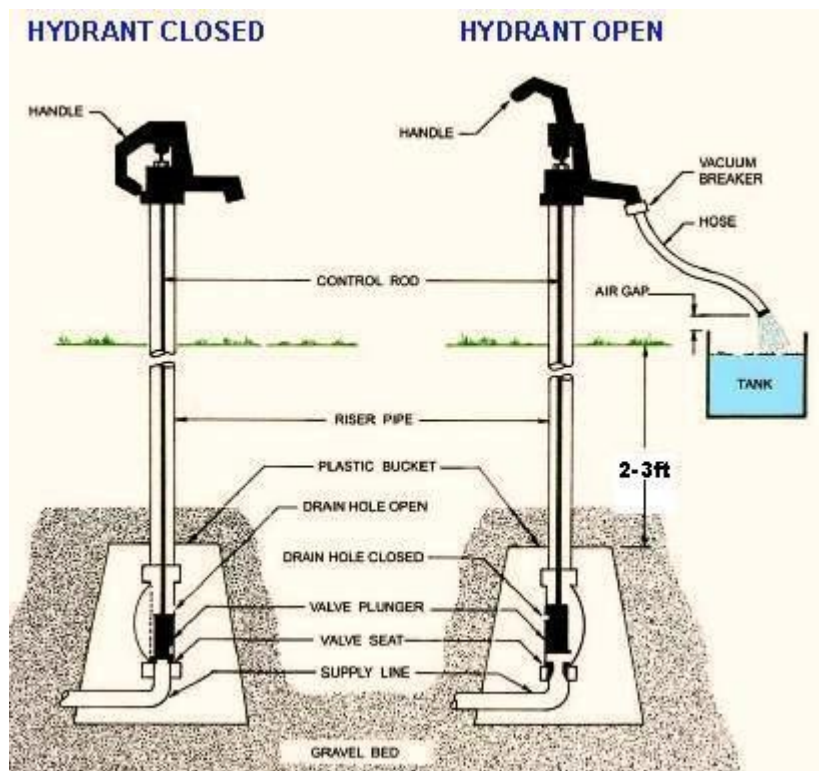
**Position the support post.** Go down about another foot in one spot for the support post (about 5ft deep). This will be for the post which will support the hydrant. Place a four by four post, cut to about seven feet long and treated for ground contact in the post hole, orient the post correctly according to where you want the outlet of the hydrant to point and backfill the post hole with dirt, tamping the dirt firmly after every couple of shovels full. Stop when you backfill to the level of 4ft.

**Fill the base of the excavation hole with ¾" gravel** (gravel screened to a minimum size of ¾"), At least one cubic yard of this clean, coarse stone must be placed underneath the stop-and-drain valve of the hydrant. The watermain and yard hydrant will sit on this base. The weight of the hydrant should be supported by the post.

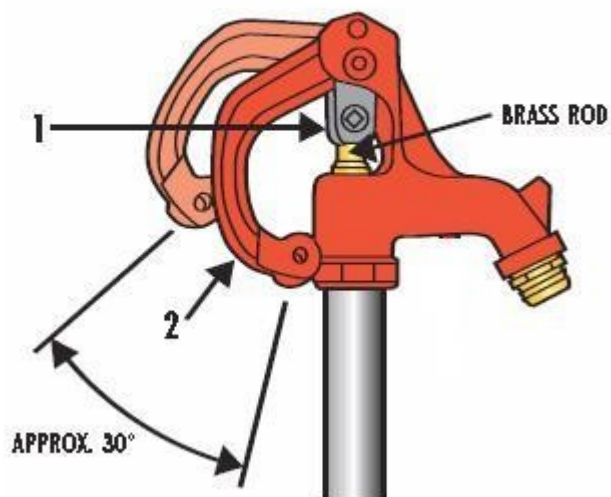
**Attach an elbow to the base of the hydrant** if the hydrant is the end of the water line. Attach a T-fitting to the bottom of the hydrant if the water line continues to other fixtures. Connect the water line to the fitting at the base, using appropriate methods. PTFE tape should be used on all threaded joints. Do not over tighten as you may damage the brass valve at the base of the hydrant. Secure the hydrant to the support post using strong cable ties or pipe clips. Test the function of the hydrant and check for leaks by introducing water to the line. (Use a hose pipe to take the water away from your working area). When the hydrant is open, water should exit from the tap opening. When the hydrant is closed, the water in the hydrant's vertical pipe should drain into the gravel area at the base of the hydrant. There is an adjustment screw in the handle to allow for minor adjustment.

**If all is well add another layer of clean, coarse stone** to a level at least 3 inches above the drain opening in the brass housing at the base of the frost-proof hydrant. A container such as a heavy plastic bucket placed upside down around the valve will also aid the quick draining. It is important that no fine particles of sand which might enter and block the drain opening can do so. Any adjustment of the hydrant should be done before backfilling.

**Place a layer of plastic or Geotextile material over the stone** to prevent clay and silt being washed down into it. Fill the rest of the excavated hole with the soil removed during the earlier excavation. Tamp each layer firmly as you go. Keep the hydrant vertically straight while adding and tamping the soil in place.



## ADJUSTMENT PROCEDURE



1. Turn water supply off!
2. Open hydrant to relieve pressure.
3. Loosen setscrew (Item 1).
4. Push brass rod down as far as it will go (by hand) to be sure that the plunger is touching the seat.
5. Move handle (item 2) open approximately 30 degrees from closed position.
6. Tighten setscrew snugly.
7. Turn water supply on.
8. Operate hydrant and make sure the hydrant is shutting off properly and flowing properly.
9. If hydrant still does not shut off, repeat steps 1 through 8.
10. Flow water through the hydrant and then close completely to check for proper drainage by: a) Listening for water draining down the pipe; or b) Putting your hand over the hose connection to feel for a vacuum. If hydrant does not drain, see Step 11.
11. To clear drain hole blockage, close off hydrant spout by using hose cap or by attaching and kinking a hose. Open and close hydrant to allow water pressure to clear blockage.

Repeat Step 10 to verify proper drainage. If hydrant still does not drain, repeat steps 1 through 10 to fully uncover drain hole.

**CAUTION:** Do not try to adjust all at once or you may over-adjust and cause damage to the plunger. For this reason, adjust in small increments.

## Tips & Warnings

Frost-proof hydrants come in a variety of lengths offering options for the proper depth, no matter how deep or shallow the frost line is in your area. If you don't know how deep the frost line is in your area, ask other homeowners how deep water lines are buried in the area.

**Water lines should always be installed below the frost line.**

Proper installation for drainage is key, both at the base to drain the supply pipe and on the surface to take away any water splashed about. Accumulations of water around the hydrant will cause a problem. In these situations, a small pipe should be connected to the drain hole to move the water away from the location of the hydrant, into a prepared drainage field of rock and gravel. A drainage pipe at the surface should take away surface water.

If the hydrant is installed through a concrete floor or slab, insulate the portion of the standpipe in contact with the concrete and lay some insulation beneath the concrete for about 3ft x 3ft around the hydrant. Also score the concrete on the same square and allow for movement of the slab.

A hydrant can be checked to see if it is draining by allowing the water to run, shutting off the hydrant and holding the palm of your hand over the end of the spout. If suction is felt, then the hydrant is draining.

Hydrants should never be installed in or near wells or water pump sumps. Drainage from the hydrant can contaminate the well or flood a pump sump. For example, the end of a hose being used to dilute a slurry pit may become submerged in the slurry. If the hydrant is shut off and starts to drain, a siphoning action will be started, and the slurry from the slurry pit will be siphoned back through the hydrant into the drainage area. If the hydrant drains into the well casing or well pit, the result may be considerable contamination. This can also apply to filling spraying tanks.

If a hose is attached to the hydrant then an air gap **must always** be kept between a hose outlet and the highest possible water level in any tank. Anti-siphon or vacuum breaker valves are available for hydrants that will help prevent this type of accident. The hose should always be disconnected and drained after each use to avoid freezing. The hydrant may not properly drain (and then be damaged by frost in winter) if air cannot easily enter the hydrant. This can occur if a hose or other device is left connected to the hydrant that blocks air passage

A frost-free hydrant completely drains the water all the way down into the hole every time it shuts off, therefore keeping it from freezing. **Pouring concrete around the base will guarantee problems, because it won't drain out and concrete also conducts the frost.**

A hydrant can freeze due to improper valve adjustment, a saturated drainage bed, a plugged drain hole or improper use, such as incomplete shut off or the constant withdrawal of only small amounts of water. These hydrants rely on draining the supply riser pipe after each use for frost protection.

A water film can remain on the inside of the riser after each use and freeze, and if it accumulates it can block the water flow. This may be prevented if sufficient water is flushed through the riser at each use to remove any accumulated ice build-up. Whilst using a hydrant system during the winter months you can simply eliminate ice build up by occasionally drawing large volume of water between 100 to 150 litres which will melt the ice or frost which often builds up inside the riser pipe of a hydrant system. Painting the riser pipe black to attract the sun's rays or insulating it with an outdoor quality insulation will also help.