

Sprinklers 噴灌

1. Connecting Sprinkler Pipes 連接噴灌水管
2. Connecting Sprinkler Heads 連接噴灌灑水噴頭

Sprinklers

Connecting Sprinkler Pipes

Assemble the zone valve piping above ground, and then install the assembly in the hole, on a bed of sand.

Thread the PVC adapters into the valves with Teflon tape and cement the pipes into the adapters. On the downstream side of each valve, install a plastic drain-down fitting with a barb connection. These fittings drain as soon as they're not under pressure.

Slide the buried poly pipe onto each barb fitting, and secure it with a stainless-steel crimp ring. The rings and crimping pliers are available at sprinkler supply houses.

While working on the zone valves, connect the low-voltage wires to the zone valves. Each valve has two lead wires. Join the white wire from the cable to one of the lead wires on each valve. This will be the common wire. Connect a different colored wire to the remaining lead on each valve.

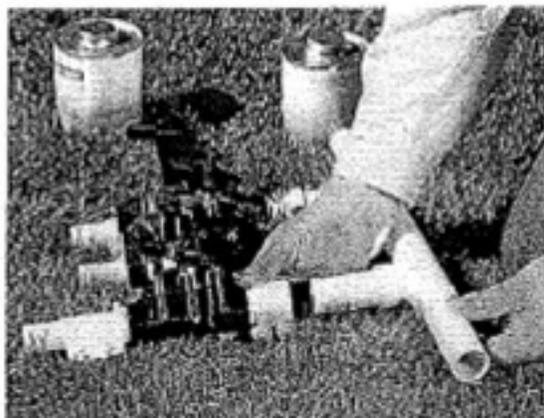
All colored wires not used in the first box, plus the white wire, will pass through on its way to the next set of valves, in the next box. Join the wires using small twist connectors. Because this will be a wet environment, pack each twist connector with silicon or liquid plastic sealant. With each set of valves plumbed and wired, install access boxes over them and backfill.

Connecting Sprinkler Components

Tools and Materials

Adjustable wrenches	TIME NEEDED 1 - 1.5 hrs
Zone valves	90-deg elbows
Low-voltage cable	Brass drain fittings
Pipe cutters	Saddle valves
Sprinkler piping	Silicon sealant

PLUMBING TIP: if you have trouble getting the pipes to slide on, it helps to heat the pipe slightly with a torch or a heat gun.



1 Following the layout of your system, assemble the zone valve piping above ground so that you will have room to work.



2 With the first three zone valves ganged and piped, connect the low voltage wires to the valves with twist connectors.



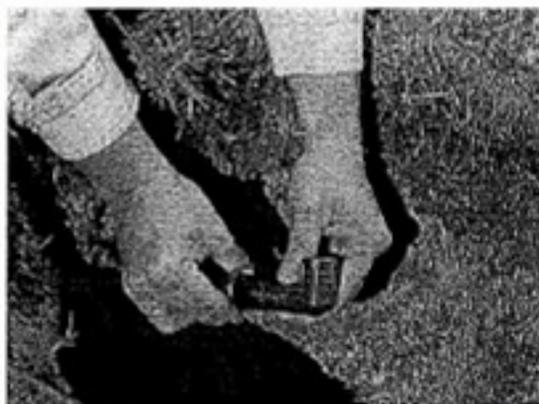
3 To drain a supply line low point, install a T-fitting with a threaded branch. Screw a brass drain into the branch.

The main feed line needs to be drained at its lowest point with a drain valve. If the line was several low points you'll need to drain each one. The best approach is to install a T-fitting that has a threaded branch. Thread a brass drain fitting into the branch, and cement the T-fitting to the line. Kant the drain fitting downward about 45 degrees; dig a slight depression under it; and fill the depression with sand.

When making polyethylene pipe connections, use barb fittings for T-fittings, couplings, and elbows. Dish soap used as lubricant can help you connect pipes. Start by sliding crimp rings onto each pipe before attaching the fitting. Trim the pipes to fit using a scissor-type pipe cutter. Push the pipes onto the fittings until they bottom out on the barbs; then slide the rings forward, and crimp them in place.



4 Use a scissor-style pipe cutter to slice through polyethylene pipe. Push the pipe into the fittings until they bottom out on the barbs.



5 Use a 90-deg. elbow when a sprinkler head is installed at the end of a pipe and drainage isn't a concern.



6 When water will be trapped at the end of the line, use a self-draining ell to connect the sprinkler head.



7 Swing pipe allows you to move the head where you need it so that you can make last-minute adjustments. It doesn't need crimp rings.

Connecting the Sprinkler Heads

Sprinkler heads can be connected to pipe in several ways. If the sprinkler is at the end of the line, a 90-degree elbow works best. If drainage is not a concern, it's best to install a 90-degree elbow with a barb fitting on one end and a female thread on the other. If you're at a low spot, install an elbow with a built-in drain.

From there, you connect the head directly using a threaded riser, or create an offset using $\frac{1}{2}$ inch swing pipe. Swing pipe allows you to spot the head several inches away from the supply line, which adds flexibility. Swing pipe also pushes easily onto barb fittings and doesn't require crimp rings.

To make an in-line tap, use self-tapping saddle valves, just spread the collar, and press the saddle over the pipe. The two halves of the collar should snap together under the pipe; then thread the aping point all the way down. Install the sprinkler heads on threaded nipples or use swing pipes as shown in step 7 above.

You can drive over one of those heads and not do damage; so they work well along driveways. When you have the head installed, backfill about 4 inches at a time, tamping with a rubber mallet.

Plumbing and Control Panel Connections

Tools and Materials

Adjustable wrenches	Control panel
T-valve	Copper pipe
Ball valve	Hose bibb
Vacuum breaker	

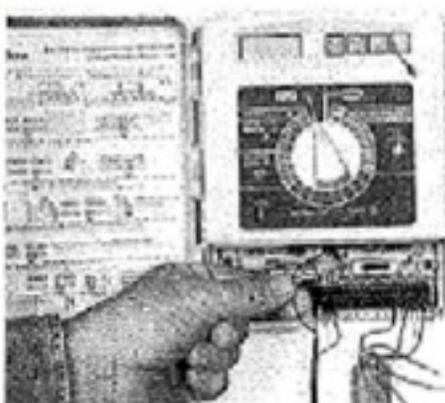
PLUMBING TIP: Ball valves are the best choice for seasonal shut off situations. You can open or close the valve with one quarter turn of the handle



- 1** Backhold the male adapter, and thread a full-flow ball valve onto it. This will be the primary shut off valve.



- 2** Install a brass nipple in the ball valve, followed by the reduced-pressure vacuum breaker. Install a hose bibb for cold-weather draining.



- 3** Bring the low-voltage cable into the house, and connect the wires to the control panel. The panel is coded for installation.



- 4** Pull the plugs from the sprinkler heads, and run the system briefly to flush any soil from the lines.



- 5** Install the grit strainers and nozzles on the sprinkler heads, and adjust the heads for the best coverage.



