Simple Sprinkler Assembly

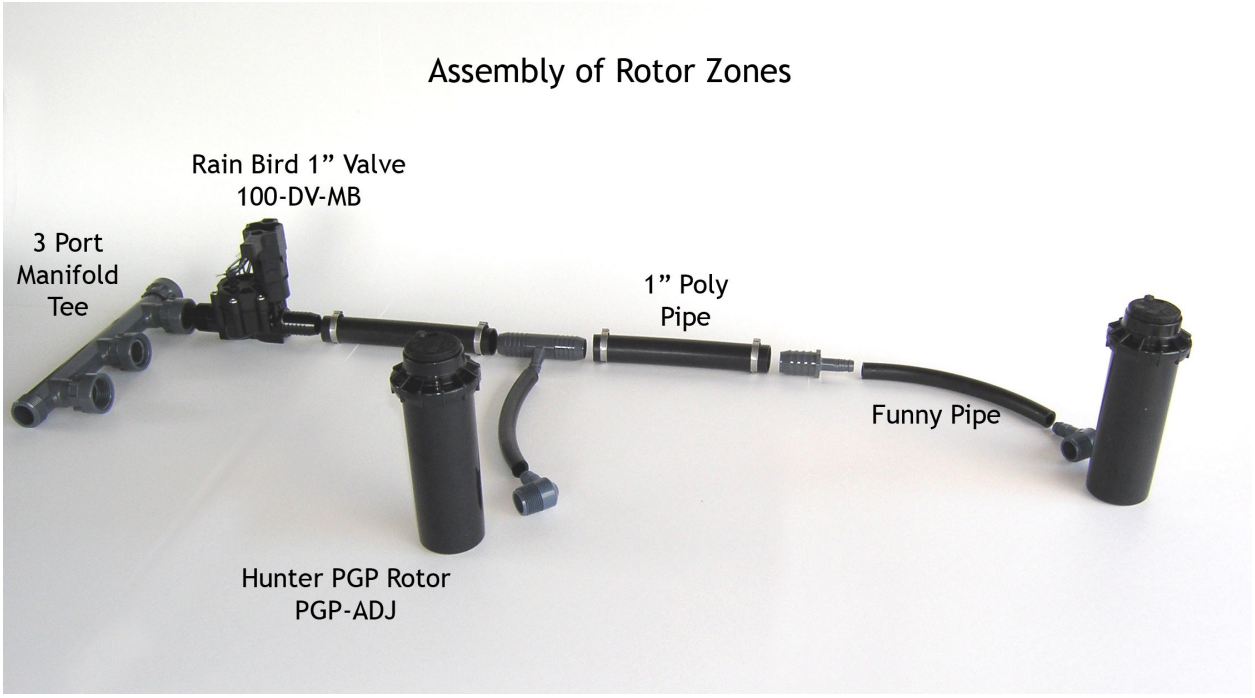
There are many acceptable ways to assemble your sprinkler system. We have chosen to present what we feel is an easy to understand method of irrigation system assembly.

Our assembly instructions show from the valve manifold to the sprinkler heads. We recommend that you use a licensed plumber connect to your water supply and for all plumbing up to your valve manifold. A licensed plumber should know the backflow (cross connection) protection requirements of your municipality.

In Canada poly pipe is the standard method of installation due to its flexibility in our freezing climates. We recommend using all 1" poly pipe for your residential system (assuming lot size of not greater than 80' x 160' or 25m x 50m). By using all 1" pipe you will minimize pressure loss and simplify your installation. We don't sell poly pipe on our web site due to the high cost of shipping but you should be able to find it locally at most building supply centres.

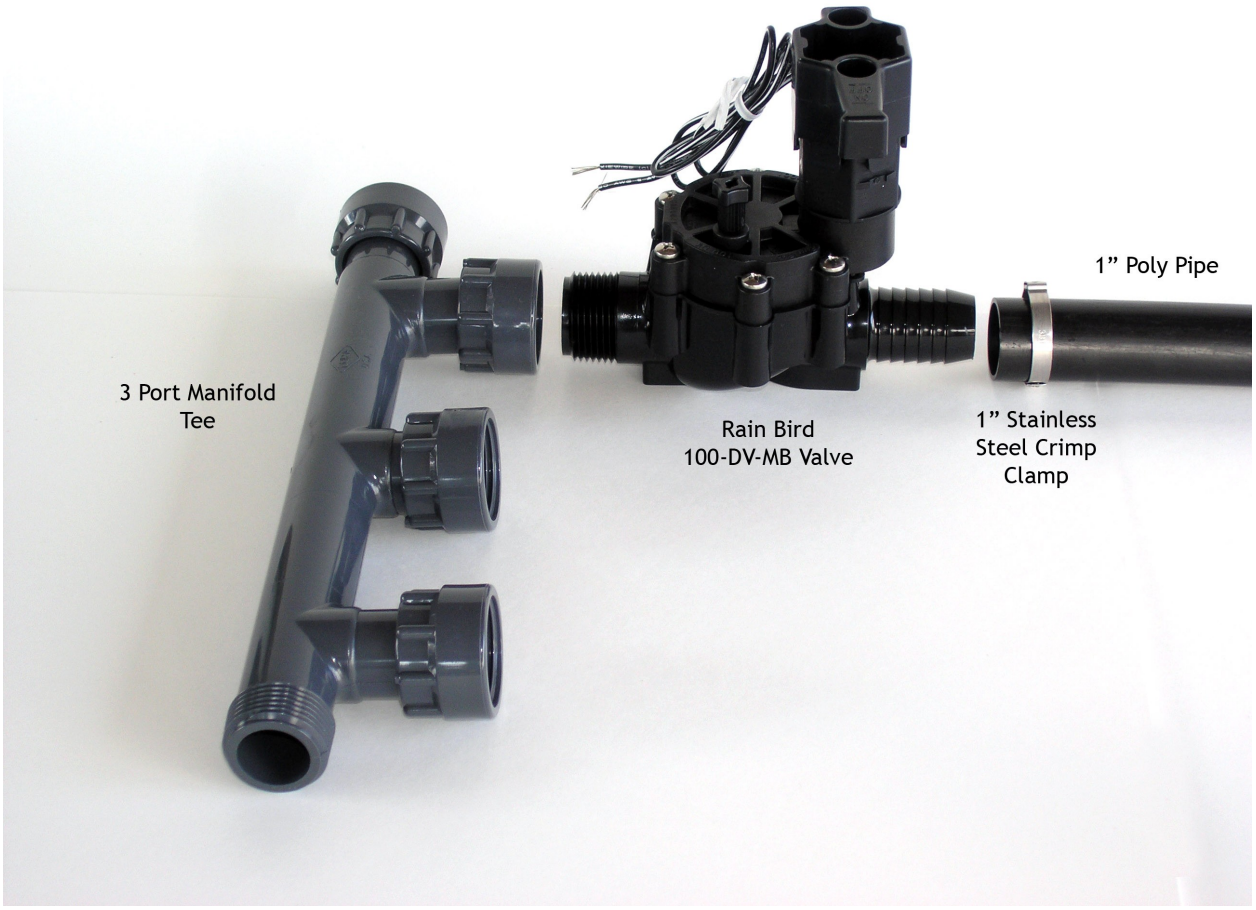
The image below shows a rotor zone and some of the fittings used to assemble the zone. Rotors are generally used when irrigating an area wider than 15' (4.6m). The image below is for illustration of the parts required. The pipe lengths are very short in order to fit the image on the page.

Using funny pipe allows for easier positioning of sprinkler heads in the right positions and at the correct height.



The image below shows how to connect the valves to the manifold. The manifold shown is a 3 port manifold. We offer a number of different manifold fittings to create the manifold that you need. We chose to use the Rain Bird 100-DV-MB, a 1" valve with a 1" male threaded inlet and a 1" barbed outlet. Attach the 1" male threaded inlet of the valve to the 1" female swivel connector on the manifold tee. Slide your 1" poly pipe over the 1" barbed outlet of the valve. Position the crimp clamp over the barbed outlet of the valve and squeeze shut with a crimp clamp tool.

Not shown below, but usually required, is a 1" manifold cap to screw onto the male end of the manifold tee.



The image below shows how to connect a rotary sprinkler head to your poly pipe in the middle of a run of pipe. Use a 1401-129 Tee (1” Insert x 1” Insert x Funny Pipe Barb). Insert the tee fully into the 1” poly pipe. Position the clamps on the poly pipe over the barbs of the tee and crimp shut using a crimping tool.

Twist the funny pipe (A.K.A. Flex Pipe and Swing Pipe) section (24” max length) over the spiral barb of the tee. A clamp is not required.

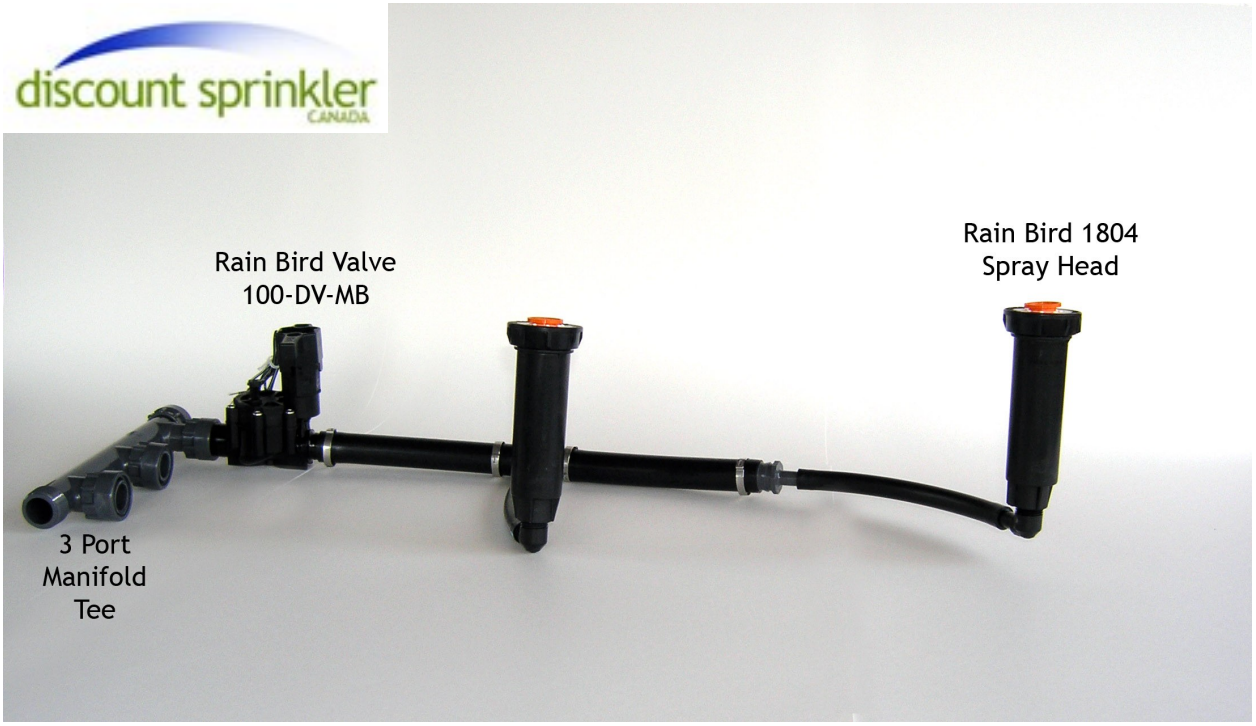
Twist the Funny Pipe Elbow into the funny pipe. The funny (swing) pipe elbow has a 3/4” male thread on one end. The Hunter PGP rotor is then screwed onto this thread. Most standard size rotors (Hunter PGP, Rain Bird 5000, K-Rain RPS75) have a 3/4” inlet on the bottom of the rotor. Smaller rotors like the Hunter PGJ and Rain Bird 3500 series have a 1/2” female inlet on the bottom of the sprinkler head and would require a funny pipe elbow with a 1/2” male thread on the end.

Attaching a rotor at the end of a run of poly pipe is basically the same as the assembly in the middle of a run on the previous page. The only difference is that instead of a tee you would use a 1429-129 Funny Pipe Coupler (or Adapter).

A number of other fittings may be required depending on the layout of your pipes. Below are three of the most common. A 1" Insert Tee (1401-010), a 1" Insert Elbow (1406-010), and a 1" Coupler (1429-010).

The image below shows a spray zone assembly. Again, pipe lengths are shortened to simplify the illustration. Spray zones are typically used when irrigating an area of less than 15' (4.5m).

Don't mix rotor and spray heads on the same zone. They apply water at different rates and will result in over or under watering in areas within the zone.



The method of installation is the same as a rotor zone except for the fitting that connects the funny pipe to the bottom of the sprinkler head. Most spray heads (Rain Bird 1800 and Hunter Pro-Spray) have a 1/2" female inlet on the bottom which means that the funny pipe elbow needs to have a 1/2" male thread on the end that connects to the sprinkler.

Each spray head will require a nozzle that screws into the top. Choose the nozzle based on the distance and pattern that you need to spray. For example a Rain Bird 15VAN nozzle will spray 15 feet at 30 psi. The Rain Bird VAN series nozzle have an adjustable arc from 0 to 360 degrees.

Earlier we described how to connect a 1” valve with a 1” male inlet and a 1” barbed outlet (top valve in illustration below) to the manifold. Below are two other common methods of attaching a valve to a manifold.

The second valve from the top in the illustration below is a Hunter PGV-100G 1” valve with a 1” female inlet and a 1” female outlet. A 1” x 1” manifold nipple is required to connect the inlet to the manifold tee. A 1” Insert x 1” Male adapter (1436-010) is required to make the transition to the 1” poly pipe used in the sprinkler system.

The third valve from the top is a Rain Bird 75-DV 3/4” valve with a 3/4” female inlet and a 3/4” female outlet. A 1” x 3/4” manifold nipple is required to connect the valve to the manifold tee. A 3/4” insert x 3/4” (1436-007) male adapter is required to connect the outlet of the valve to a 3/4” poly pipe using a 3/4” crimp clamp.

We recommend using 1’ poly pipe throughout the system, but 3/4” poly pipe is sufficient in some instances.